

THE BRITISH JOURNAL OF TUBERCULOSIS

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THE BRITISH JOURNAL

OF

TUBERCULOSIS

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No. 1.

A COMING-OF-AGE SYMPOSIUM.

TWENTY YEARS' PROGRESS OF THE TUBERCULOSIS MOVEMENT.

THE BRITISH JOURNAL OF TUBERCULOSIS was founded in January, 1907. The present issue is a coming-of-age number. Through twenty years the *Journal* has sought to serve the Tuberculosis Movement, which aims at the prevention and arrest of one of the most deadly and damaging of the scourges of mankind. In the Editorial Notes published in the first number of the *Journal* the following statement appeared: "The tuberculosis problem is essentially a medico-sociological one. . . . Tuberculosis is a malady which not only demands the study of the pathologist and the sanitarian, and the care of the physician and surgeon, but calls for the serious attention of every worker in life's strenuous workshop. For in this campaign every one should volunteer—the citizen and the statesman, the labourer and the capitalist, the teacher and the scholar, the social reformer of every school and the patriot, whatever his rank or creed. Medical direction and control must be associated with sociological inquiry and humanitarian enterprise." To the first number the late Sir Clifford Allbutt contributed "A Retrospect" on the study of tuberculosis, and Sir Robert Philip "An Anticipation." The latter article concluded with these words: "The time seems ripe for a great forward movement against tuberculosis. What is chiefly required to insure a successful issue is a fuller and juster conception on the part of our people as to the enormous proportions of the evil to be faced, and their intelligent insistence that the authorities will be sufficiently wise and courageous to adopt measures commensurate with the greatness of the need. Given these conditions, we may confidently look for the final extermination of tuberculosis. Here, as in other spheres, the future belongs to the brave." Through twenty years the *Journal* has endeavoured

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to forward all wisely planned and courageously conducted enterprises striving for the extermination of tuberculosis, and seeking for a full understanding of the causation, manifestation, and treatment of the disease in its many pathological forms and clinical varieties. During this period conspicuous progress has been attained, both by State action and voluntary efforts. But tuberculosis still exacts a heavy toll from the children of men and man's domestic animals. We have yet much to learn as regards tuberculous disease, and there is need for considerable new adventuring in regard to the organization and administration of ways and means for dealing with tuberculous and tuberculously inclined subjects.

During the past twenty years the *Journal* has published original articles from most of the leaders in the Tuberculosis Movement, and communications from students and workers in all fields of thought and action relating to tuberculosis. We take this opportunity of expressing appreciation and warm thanks to all our supporters at home and abroad for their constant encouragement and help. As long as tuberculosis threatens the health and hinders the happiness of mankind we trust that the *Journal* will continue to serve the interests of all who fight the common foe. The present coming-of-age issue contains a number of communications from well-known workers in the Tuberculosis Movement. These opinions, records of experiences, and registers of events afford remarkable testimony to the value of the work accomplished during the past twenty years, and provide words of encouragement and hope for the future.

FROM SIR GEORGE NEWMAN,

K.C.B., D.C.L., M.D., F.R.C.P.,

Chief Medical Officer of the Board of Education and the Ministry of Health ;
Crown Nominee on the General Medical Council ; Emeritus Lecturer
on Public Health, St. Bartholomew's Hospital.

The broadest possible attack is the one way of grappling with tuberculosis. The history of the decline of tuberculosis since the middle of last century is full of instruction as to the future. The following factors contribute to the end in view : 1. Sound nutrition, the practice of hygiene and immunization when practicable—in order to fortify the powers of resistance of the individual. 2. Prevention of the spread of infection due to personal contact or through tuberculous milk and meat. 3. General health reform, including adequate medical service, improved housing, lessened overcrowding, industrial welfare, the provision of open spaces, open-air schools and the open-air life, the school medical service, maternal and child welfare and all measures directed against diseases which predispose to tuberculosis. Social

amelioration, high wages, sobriety, etc., are also important. 4. Effective application of the particular methods which are already in operation—notification, domiciliary and dispensary supervision, sanatorium and hospital treatment, village settlements and appropriate means of after-care. 5. Co-ordination of the whole tuberculosis service with the general public health work of the local authority under its Medical Officer of Health. 6. The education of the people in all these matters—either by local authorities (education and sanitary), voluntary health societies, the newspaper press or otherwise. From time to time we are told that this, that, or the other means of attacking tuberculosis is ineffective: and this may well be so when isolated factors are considered separately, or when any or all factors are ineffectually applied or misapplied. But if and when these various means are properly, sensibly, and skilfully applied and co-ordinated, the results are as good and probably better than organized action against any other disease. The promulgation of sound doctrine on these matters by the *BRITISH JOURNAL OF TUBERCULOSIS* during the past twenty years has furnished a valuable weapon in the campaign, and I wish the *Journal* continued success in its future labours.

FROM DR. A. ROLLIER,

Medical Director of the Heliotherapy Clinics at Leysin, Switzerland.

Professor Kocher of Berne, to whom it was my privilege to be assistant for some years, once said: "I believe that in the near future the practice of a more rational hygiene will reduce considerably the number of surgical interventions." These words may be taken as an accurate prophecy of what has actually occurred in the domain of surgical tuberculosis during the last twenty years. When I opened the first clinic in Leysin for the treatment of bone and joint tuberculosis with heliotherapy, operative procedure was still the treatment of choice. Inspired by the success of the Lyons school in France, and the results achieved by Bernhardt of Moritz by the local use of heliotherapy as an adjuvant to surgery, we decided to attempt, in fulfilment of Kocher's prophecy, the replacement of surgery by general heliotherapy. We believed, and experience has confirmed the belief, that so-called surgical tuberculosis is merely the local manifestation of a general diathesis, and should be amenable to climatic and dietetic treatment, combined with exposure of the whole surface of the body to the sun. This was the new departure, and the history thereof is writ large on the slopes of Leysin, where thirty-five clinics devoted to the practice of heliotherapy have been founded since 1903. Not only in Leysin, indeed, may the lesson be learnt, for, in spite of early incredulity, converts amongst the leaders of surgical thought have been in ever-increasing number. Professor

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Bardenheuer of Cologne opened in 1912 an annexe to his hospital at Leysin. Sir Henry Gauvain, the first and most eminent of our English disciples, has used for many years heliotherapy in his clinic, and the writings and lectures of Dr. C. W. Saleeby have done much to win for light treatment the attention of the English medical world. Space does not permit of any detailed consideration of the history of heliotherapy, nor of the movement to associate with it the work cure which has proved at Papworth in the hands of Dr. Varrier Jones, and at Frimley under Dr. Patterson, such a valuable moral and physical adjuvant in the treatment of pulmonary tuberculosis. We at Leysin have insisted from the start on the importance of the work cure, and in England the same idea has been brilliantly carried out by Sir Henry Gauvain and Sir Robert Jones, ably assisted by Mrs. Kimmins at Chailey, whose institution I had the privilege of visiting and admiring in 1924. Prevention is better than cure, and this is most true for tuberculosis. The use of the sun and air and, where climate forbids, the proper use of artificial light is one of the most powerful agents we possess in the battle against tuberculous infection. Here, I am convinced, lies the secret of efficient prophylaxis. Let us by all means continue the fight against infection, but we should never forget that of 100 infected only a small percentage, through defective resistance, develop the disease. Surely we must not neglect the means lying ready to our hands for building up the resistance of our children by exposure to the sun and air, the common property of all. I have written of what I know, leaving to others the task of describing the multifarious aspects of the fight we are all waging against the common enemy. My last words must be of greeting to the BRITISH JOURNAL OF TUBERCULOSIS on its coming of age. The remarkable success which has been achieved in England during the last twenty years in the fight against tuberculosis is due in no small measure to the enlightened campaign of the BRITISH JOURNAL OF TUBERCULOSIS during this period.

FROM SIR HUMPHRY ROLLESTON,

BART., K.C.B., D.SC., D.C.L., LL.D., M.D., F.R.C.P.,

Regius Professor of Physic in the University of Cambridge; Ex-President of the Royal College of Physicians.

On the occasion of the coming of age of the BRITISH JOURNAL OF TUBERCULOSIS it is natural and only right to recall its services to the advance of our knowledge in the problems of tuberculosis. By providing the most recent information in a compact and convenient form, by its critical notes, and by the valuable original articles which have seen the light in its pages, it has done much to spread the gospel of the prevention of this widespread disease. The activities and success of

the *Journal* are so obviously due to the devotion of the Editor that this is a welcome opportunity of expressing our debt to Dr. T. N. Kelynack.

FROM SIR ARTHUR NEWSHOLME,

K.C.B., M.D., F.R.C.P.,

Formerly Principal Medical Officer, Local Government Board; Late Lecturer on Public Health, Johns Hopkins University; Author of "Elements of Vital Statistics," etc.

Twenty years, during which the BRITISH JOURNAL OF TUBERCULOSIS has borne a valuable part in disseminating accurate knowledge on the subject of tuberculosis, is a short time in the history of one of our greatest social diseases; but these twenty years have been distinguished by a reduction in the incidence of tuberculosis which shows no slackening from earlier years. The general lines of preventive action are now well established; and it is agreed that no policy can succeed which does not combine measures for treating individual sufferers from the disease with measures for diminishing infection and for raising the powers of resistance of the community to infection. Some may attach greater value to one and some to another item in a comprehensive programme meeting these chief indications; but there can be no reasonable doubt that measures fulfilling them all are needed on a larger scale than at present to secure an even more rapid decline in the death rate from tuberculosis than has hitherto been experienced. The only wise policy is to pursue and link together all medical and social measures to these ends, and to invest money in expenditure on a scale which will more nearly fulfil the needs of the case, in confidence that the pecuniary and social gain to the community to be thus secured will compensate many times over for the effort.

FROM SIR ROBERT JONES,

BART., K.B.E., C.B., D.L., D.SC., LL.D., F.R.C.S.,

Director of Orthopædic Surgery, St. Thomas's Hospital, London; Surgeon Royal National Orthopædic Hospital, London; Director Orthopædic Surgery, Liverpool Children's Hospital and Royal Infirmary, Liverpool.

It must be a source of satisfaction and pride to the Editor of the BRITISH JOURNAL OF TUBERCULOSIS when he reflects upon the splendid work effected by the *Journal* during the past twenty years. All of us who are interested in the eradication of surgical tuberculosis owe the *Journal* a debt of gratitude because of the crusade which its Editor has so ably conducted. During the last twenty years gratifying advances have been made, both from the preventive and curative side. Indeed, one need not be an optimist to predict that in the near future tuberculosis will be a rare affection. The public do not yet realize that

between forty and fifty thousand of our people die of tuberculosis every year. Nor do they realize that the disease is infectious and not hereditary. Diminished power of resistance may be transmitted, but in every case the poison must be introduced from without. The public conscience is at last being awakened, and increasing interest is being taken in procuring a clean milk supply and in preventing contact between child and consumptive parent. It is on these lines that victory will be assured. Open-air hospitals, adequately staffed and appointed, are springing up all over the country, where sunlight and violet rays are utilized, and a network of after-care centres or clinics secure uninterrupted continuity of treatment. We shall want the *BRITISH JOURNAL OF TUBERCULOSIS* to continue its good work of propaganda in the years to come, and I wish it Godspeed.

FROM SIR HENRY GAUVAIN,

M.A., M.D., M.C., M.R.C.S., L.R.C.P.,

Medical Superintendent Lord Mayor Treloar Cripples' Hospitals and Morland Clinics, Alton; Consulting Surgeon (Tuberculosis) to the County Councils of London, Essex, and Hampshire; Consulting Surgeon to the United Service Fund Heatherwood Hospital for Children, Ascot, and King George's Sanatorium for Sailors, Bramshott; Hon. Consulting Surgeon Welsh National Memorial Association; Chairman Joint Tuberculosis Council; Member Medical Research Committee on Biological Action of Light, etc.

The fact that the *BRITISH JOURNAL OF TUBERCULOSIS* has attained its majority comes to me as a shock. Its existence as a Journal devoted to the furthering of the antituberculosis movement coincides very nearly with the time I have spent at Alton in the treatment of surgical tuberculosis. We are old friends growing older together. I suppose I must now be one of the oldest subscribers, and I look forward to each succeeding number of the *Journal* with undiminished interest. I would like to take this opportunity of sending my warmest congratulations to Dr. T. N. Kelynack for the success that has attended his efforts as Editor of the *Journal*. It occupies a very special place in the affection and regard of all working in the tuberculosis field. The *Journal* has always been in the van in recording advances in treatment, and these advances have been many in the course of its existence. We all owe a debt of gratitude to the *Journal* and its Editor, particularly for the encouragement always given to young and keen men who are making their initial efforts. Moreover, those with established reputations are constant contributors, and the *Journal* is a valuable means of bringing us all together and initiating and cementing friendships which become increasingly precious and valued. Others will speak of the advances made in the treatment of pulmonary tuberculosis. In surgical tuberculosis no similar period has shown equal progress. The mutilating and crippling operations of the past, which left such deplorable

orthopædic results on those so treated, and who were fortunate enough to survive, are now but an unhappy memory. Amyloid disease is now rarely seen. Patients are treated earlier and better in well-equipped specialized country hospitals manned by expert and highly trained staffs. Abscesses are now rarely opened and converted into painful chronic septic sinuses; the value of aspiration with careful technique is increasingly appreciated; orthopædic treatment has immensely improved. Early cases now as a rule recover with little residual deformity. It is a commonplace for patients to be able to take their places in the community as wage-earners, whereas previously survivors very frequently dragged out a miserable existence as dependants. Children admitted to these special institutions are now, as a matter of routine, educated while treatment is in progress. An increasing appreciation of the value of heliotherapy and open air is general, and graduated and systematic sea-bathing may now be added to the other accelerating methods of cure. The importance of systematic after-care and assistance is now universally recognized. A specific cure seems to be still as elusive as ever, but patient, carefully planned treatment which calls to its aid all the resources of the physician, surgeon, orthopædist, physiotherapist, bacteriologist, sociologist, and social worker affords an efficient substitute. All these advances have been recorded in the pages of the *Journal*, whose majority we now acclaim, and we all unite in wishing it a happy continuation of its useful and much appreciated career.

FROM SIR WILLIAM MILLIGAN,

M.D., M.CH.,

Consulting Aurist and Laryngologist to the Manchester Royal Infirmary and to the Ear Hospital; Surgeon Laryngologist to the Radium Institute; Author of "Diseases of the Ear," etc.

The coming of age of the *BRITISH JOURNAL OF TUBERCULOSIS* is indeed a happy incident in the history of medicine. The vigorous and enthusiastic manner in which the *Journal* has placed before its numerous readers the scientific and social problems connected with the devastating effects of "the white scourge" has given it an authoritative voice not only in this country, but also on the Continent. The articles which have appeared in its pages—articles written by professional men of experience and standing—have done much to draw attention not only to the value of early diagnosis, effective treatment, and the benefits to be derived from sanatorium treatment in suitably selected cases, but also to the methods of combating an infection which has played havoc with so many young and promising lives. The fact that during the twenty years of the *Journal's* existence the death-rate from tuberculosis has gone down by well over 20 per cent. speaks volumes

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for the dissemination of the knowledge which it has spread. To its energetic and capable Editor the country and the profession owe a debt of gratitude.

FROM SIR PERCIVAL HORTON-SMITH HARTLEY,

C.V.O., M.A., M.D., F.R.C.P.,

Physician and Joint Lecturer in Medicine, St. Bartholomew's Hospital; Consulting Physician to the Brompton Consumption Hospital and to the Daneswood Sanatorium; Joint Author of "Diseases of Lungs and Pleurae."

The birth of the BRITISH JOURNAL OF TUBERCULOSIS in 1907 coincides approximately with the rise of the "sanatorium movement" in this country. The gracious action of His Majesty King Edward VII. in devoting the large sum placed at his disposal for philanthropic purposes by the late Sir Ernest Cassel to the founding of a sanatorium focused public attention on this method of treatment, and sanatoria rapidly sprang up throughout the country, many being erected by the various local authorities, to which patients are sent under the provisions of the National Insurance Acts. Plans of various sanatoria may be seen in the earlier numbers of the BRITISH JOURNAL OF TUBERCULOSIS. It was soon found, however, that in addition to sanatoria, dispensaries, under the care of special "tuberculosis officers," were necessary if those suffering from tuberculosis were to be diagnosed early, and any real attempt made to better their home conditions and to watch over them throughout their illness. Such dispensaries, modelled on the lines of the one inaugurated in Edinburgh by Sir Robert Philip, have been established throughout the country, and excellent work is being carried on by the devoted "tuberculosis officers" and the nurses under their direction; and the continued fall in the death-rate from tuberculosis, apart from the temporary war-rise, may be attributed, in part at least, to their unsparing efforts. In regard to treatment, the most notable advance during the past twenty years has been in the introduction of "artificial pneumothorax," whereby the surgical principle of placing at rest the diseased part is applied to the lung itself. There can be no question of the benefits resulting from this treatment in patients suitably chosen; and even in certain acute cases, with the gravest possible outlook, dramatic improvement and apparent recovery have been known to occur. But, as always, it must be borne in mind that it is "arrest," not "cure," which has been obtained, and that the enduring character, or otherwise, of the arrest will depend largely upon the efficiency of the after-care and treatment. Of late, too, surgical operations, especially that known as "thoracoplasty," have been introduced to obtain collapse of the chest, where artificial pneumothorax has failed or has not been possible. Such

operations have a very limited sphere of action, but in certain cases have proved successful in giving relief to the patient. A more simple operation, hardly indeed to be dignified by the name, is the evulsion of the phrenic nerve through a small incision in the neck. This little operation, which may be done under local anæsthesia, is free from danger, and leads to some collapse of the base of the corresponding lung, and is of use where in certain cases the base of the lung is especially affected, or where there exists some basal bronchial dilatation. Other writers will no doubt refer more fully to the advance made, notably by Rollier, and in this country by Sir Henry Gauvain, in the conservative treatment of tuberculosis of bones and joints, under the influence of sunlight, fresh air, and a generous diet, combined with rest and suitable appliances; but enough has been said to show that real progress has been made in the treatment of tuberculosis during the lifetime of the *BRITISH JOURNAL OF TUBERCULOSIS*, in which advance the *Journal* may rightly claim to have taken its due share.

FROM SIR WILLIAM J. THOMPSON,

B.A., M.D., F.R.C.P.I.,

Ex-President of the Royal College of Physicians of Ireland; Late Registrar-General for Ireland; Chairman Committee of Management, Premont Sanatorium, Hazelhatch, Dublin.

It is gratifying to be able to state that Ireland has shared in the general decrease of deaths from tuberculosis in common with other countries during the past twenty years. The following figures bear this statement out: In 1906 the number of deaths from all forms of tuberculosis in Ireland was 11,756, which represented a rate of 2·67 of the estimated population. In 1910 these deaths had decreased to 10,016, rate 2·28; in 1915 the total deaths was 9,525, rate 2·23; in 1920 number of deaths was 7,651, rate 1·75; and in 1925 the number had still further decreased to 6,773, rate 1·60—that is, for the twenty years the number of deaths had decreased from 11,756 to 6,773, a decrease of 4,983, and the rate had decreased from 2·67 to 1·60. Several contributory causes can be looked upon as effecting this satisfactory change; particularly the propaganda campaign initiated and undertaken by the Countess of Aberdeen in 1906, when she was Vicereine of Ireland. This enterprise included tuberculosis exhibitions, lectures, etc., carried on throughout the country. In 1908 the Tuberculosis Act was passed, which gave power to County Councils to erect and maintain sanatoria, appoint tuberculosis medical officers; and later on the National Health Insurance Act came into operation. In addition After-Care Committees were organized by the Women's National Health Association, which looked after the patients' families while the patients were under treatment, and the patients after their return home.

Further, the standard of living has of late years increased; also better housing has been provided and public health generally has improved. The medical profession has from the beginning wholeheartedly entered into this work. In the beginning of the tuberculosis campaign in Ireland, and all through, the *BRITISH JOURNAL OF TUBERCULOSIS* greatly helped the work in every way possible. This *Journal* must also be looked upon as being of great assistance, not only in Ireland, but also in Great Britain, to all working in this branch of medicine, and its influence has stimulated and encouraged workers in many countries. Hearty and cordial congratulations on this, the coming of age anniversary of its inception, are due to the Editor and all those connected therewith, and the feeling is widespread that this *Journal* will in future play a still more important rôle in helping to stamp out this disease.

FROM PROFESSOR E. W. HOPE,

O.B.E., M.D., D.SC.,

Professor of Public Health in the University of Liverpool; Examiner in Hygiene in the University of London; Late Medical Officer of Health of the City and Port of Liverpool, and Chief Medical Officer to the Education Committee; Author of "Text-book of Public Health," etc.

Thanks in a large degree to the measures which it has promulgated and espoused, the attainment by the *BRITISH JOURNAL OF TUBERCULOSIS* of its twenty-first anniversary marks a period of almost uninterrupted decline in mortality from tuberculosis. The period in question has witnessed, in some at least of the great cities of this country, the development of diagnosis and classification; the establishment of tuberculosis institutions or dispensaries; centres for the examination, observation, treatment, continued treatment, and after-care of sufferers, as well as the examination and supervision of contacts. It has witnessed the expansion of sanatoria, and what is of more consequence, the suitable selection of patients and the consequent removal of centres of infection. Statistics have become more accurate; optimistic and foolish expectations based on novel and untested methods of treatment have given way to more common-sense estimates. The domiciliary nursing of both pulmonary and non-pulmonary cases has been developed, thanks largely to the Queen Victoria District Nursing Association; provision of extra nourishment in appropriate cases has been made more systematically; co-operation between medical practitioners and the tuberculosis medical officer is secured by means of systematic periodical reports from the practitioners, and payments to practitioners have been adjusted. Highly important preventive measures, such as control of milk, improved housing and domestic conditions, have been developed, the sanatorium school has come into being, the potentiality of artificial light treatment and arc-light therapy is recognized. Measures, it is

true, had their set-back consequent upon the German attack upon the civilized world, and tuberculosis mortality increased temporarily as a consequence, but the substantial reduction in the death-rate has been resumed. A Journal which will record faithfully the preventive measures and their consequences and results, is a valuable ancillary to the advancement of human welfare.

FROM PROFESSOR S. LYLE-CUMMINS,

C.B., C.M.G., LL.D., M.D., B.CH., B.A.O., D.T.M.H.,

David Davies Professor of Tuberculosis in the University College of South Wales and Monmouth; Principal Medical Officer for the King Edward VII. Welsh National Memorial Association for the Prevention, Treatment, and Abolition of Tuberculosis; Late Professor of Pathology, Royal Army Medical College, Millbank, London.

It is just eighteen years since I made my first contribution to the BRITISH JOURNAL OF TUBERCULOSIS, a paper on "Tuberculosis in the Egyptian Army," in which I called attention to the extreme susceptibility to the disease evinced by the Sudanese recruits from the Upper Nile Provinces as compared to the relatively civilized and urbanized Egyptians amongst whom the disease had been endemic from the earliest times. Since then it has often been my privilege to publish papers in the *Journal*, and I have to thank the Editor for the hospitality of his columns whenever I have desired to bring forward matters which I regarded as important. It is with especial gratitude that I recall the invariable help and support given by the BRITISH JOURNAL OF TUBERCULOSIS to the Tuberculous Diseases Diploma of the University of Wales. From the first, this attempt to raise the standard of knowledge amongst medical men desiring to take up tuberculosis work in England and the Colonies has had the advantage of a sympathetic understanding and frequent journalistic assistance from Dr. Kelynack and his paper. May I tender to the BRITISH JOURNAL OF TUBERCULOSIS on the occasion of its "coming of age" my congratulations on what it has already accomplished, my gratitude for all the help it has given me, and my sincerest good wishes for its future success.

FROM WILLIAM ROBERTSON,

M.D., F.R.C.P.E., D.P.H.,

Medical Officer of Health for the City of Edinburgh; Lecturer in Public Health to the University of Edinburgh; Joint Author of "Sanitary Law and Practice," etc.

We are justly proud of our progress in preventive medicine in this country, but we still have a long way to go before we can sit back and feel satisfied that our work is finished. We must keep hammering at propagandism. In this direction the BRITISH JOURNAL OF TUBERCULOSIS has done splendid work by keeping us well informed. It

justifies its existence on that account alone. The mortality figures for tuberculosis are gradually being reduced. It is a slow process, but it can be maintained if the educational and preventive sides are kept in the forefront. There is too much medicine-giving at clinics, and too little hygiene practised in the home. The food is often non-sustaining and ill-chosen, and social habits are at variance with common sense. One line of attack is quickly developing, and that is improvement in the milk supply. If local and hospital authorities will grasp the economy of the life-saving factor they will insist on providing those under their care with tubercle-free milk. Pasteurization may be employed as a tentative step, but pure milk from tested cows should never be grudged when milk supplies are annually put up for contract. Too often we find the cheapest tender being accepted. To do this is to flaunt preventive methods. Improved housing is expected to work wonders, so it will when the inmates use their windows and cooking-ranges to the best purposes. It is our duty to propagate these truths.

FROM JANE WALKER,

M.D., J.P.,

Medical Superintendent East Anglian and Malings Farm Sanatorium, Nayland ; East Anglian Children's Sanatorium, and Officers' Training Centre, and Centre for Training Ex-service Men ; Member Departmental Committee on Provision for Treatment of Tuberculosis, 1911 ; Author of "Modern Nursing of Consumption."

It gives me great pleasure to note that the BRITISH JOURNAL OF TUBERCULOSIS has attained its majority, and that the promises of its youth have been maintained. It has seen many changes in the treatment and management of tuberculosis. When it started publication we had no Sanatorium Benefit, and all treatment for poor persons had to be undertaken by charitable organizations. Since the taking over of the treatment of the tuberculous by the State and the local authority the comprehensive management of the tuberculous person has advanced by leaps and bounds. The scheme gradually evolved of dispensaries, sanatoria, homes for advanced cases, and for, too, the dying, together with home treatment and after-care, still holds the field. After-care needs further amplification, but all serious workers, of whom the BRITISH JOURNAL OF TUBERCULOSIS has not been the least, are aware of this. Medically, perhaps, the greatest advance has been the discovery of the possibility of the production of artificial pneumothorax in about 1908, followed within recent years by treatment of advanced cases by means of various thoracoplastic operations. Treatment by vaccines and sera in abundance has come and gone, and the true specific is still to be found. If ever it is found, the BRITISH JOURNAL OF TUBERCULOSIS will do its part in helping to make it known. Long life to the *Journal* and may it live to attain its jubilee.

FROM NATHAN RAW,

C.M.G., M.D., M.R.C.P., F.R.C.S., F.R.S.E., J.P.,

Lord Chancellor's Visitor in Lunacy; Hon. Consulting Physician Preston Hall Colony for Ex-service Men; British Member International Committee for the Prevention of Consumption.

The concerted attack on tuberculosis during the last twenty years has been highly successful in most countries, and especially in Great Britain. Under Government direction every city, town, and district in the country is devoting research, treatment and prophylactic measures towards its eradication, and in my opinion the next twenty years will show continued progress. The recognition of two great types of tuberculosis—viz., pulmonary and surgical tuberculosis—is of supreme importance, and the great part played by milk and bovine products as the cause of bone-joint and gland diseases will lead to their early eradication. The BRITISH JOURNAL OF TUBERCULOSIS has done great service both to the profession and the public in its unremitting campaign against this fell disease, and our efforts must be continued if we are to succeed in still further reducing its ravages. The BRITISH JOURNAL OF TUBERCULOSIS during the past twenty years has been a conspicuous agent in furthering the scientific study of tuberculosis in this country and assisting measures for the organization and administration of measures securing its prevention and arrest.

FROM H. BATTY SHAW,

M.D., F.R.C.P.,

Physician to University College Hospital and the Brompton Hospital for Consumption and Diseases of the Chest; Physician (in London) to the Royal National Hospital for Consumption, Ventnor; Author of "Hyperpiesia," etc.

The last twenty years, which correspond with the period during which the BRITISH JOURNAL OF TUBERCULOSIS has exerted its influence in furthering thought and encouraging action in regard to measures aiming at prevention and arrest of tuberculosis, have seen great changes in the conception of the cause of tuberculosis. The masterly work of Laennec, clinician and pathologist, clearly showed that, whatever was the cause of the formation of a tubercle (he thought the cause was a diathesis), the same cause could effect naked-eye changes in the lungs which revealed none of the features of a tubercle—viz., infiltrations. Substituting "infection by the tubercle bacillus" for "diathesis," this statement of Laennec's concerning these particular changes in the lungs is found to be quite true even at the present day. But Koch found himself obliged to protest against the tendency to take Laennec too literally. Laennec said that tuberculosis of the lung, or phthisis pulmonalis, owed its development to the tubercle. But Laennec, from

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no fault of his own, did not know the cause of the tubercle formation, nor how that cause was disseminated, not only in the lungs, but in the body generally. The problem of our day is to settle what are the agencies which lead to the dissemination of tubercle bacilli from a first focus of deposit in the lung, which so often is not only harmless, but beneficial. When these disturbing agencies are restrained, the universal infection of civilized humanity by the tubercle bacillus should remain benign, and not be one of the great "captains of the men of death" which it is to-day. The BRITISH JOURNAL OF TUBERCULOSIS was prompt in placing before its readers the possibly important part played by catarrho-pyogenic infection of the lungs as one at least of these disturbing agencies.

FROM P. C. VARRIER-JONES,

M.A., M.R.C.S., L.R.C.P.,

Hon. Consulting Tuberculosis Officer to the Cambridgeshire County Council; Medical Director Cambridgeshire Tuberculosis Colony and Papworth Village Settlement; Hon. Medical Director British Legion Village, Preston Hall; Lecturer on Tuberculosis, State Medicine Syndicate, University of Cambridge. Author of "Tuberculosis and the Working Man," etc.

A coming-of-age birthday, whether it be that of a man or a scientific Journal, is a fit subject for congratulation, and I am delighted to be able to add mine to the many that the Editor of the BRITISH JOURNAL OF TUBERCULOSIS will receive. But the occasion may be one not only of rejoicing that maturity has been successfully reached, but of forecasting the future. Twenty years form but a brief period in the history of medicine, yet the *Journal* has recorded advances of knowledge in the tuberculosis field which should serve as a solid framework for future endeavour. These basic ideas may well be permanent, but it is equally sure that at the moment we are making real progress. We humans, like the protons of atoms, are apt to revolve in circles; we revolve and revolve in our stated orbits, but make little advance until some outside force knocks us out of our accustomed path. We then emit a quantum of energy. Every now and then the *Journal* has been able to record such a force, a quantum of energy has been let loose, and a new field opened for exploration. Are we not possibly even now at the gate of such an unexplored territory? We are becoming dissatisfied (and dissatisfaction is the beginning of progress) with such vague terms as "resistance," "predisposition," "heredity," and the like, and all the variety of meanings given them by writers on the subject, and by the application of biochemical methods new vistas are opening up. Opportunities for such research are being rapidly seized, and varying factors hitherto beyond our control are now subjected to intensive study and investigation. The beginning of the eighteenth century produced

Richard Morton's "Phthisiologia," in which he says: "Every Consumption, though it be cured, is apt to return, and he that has once been in a Consumption, unless he governs himself very regularly, falls back into the same condition, even upon the least occasion." At the beginning of the twentieth century the opinion is still freely stated that sanatoria patients, on their return to their ordinary occupations, are apt, speedily, to relapse and to suffer from an exacerbation of their disease. After all these years we still know but little about the factors that produce "resistance"! When, however, we have made a further advance along biochemical lines, in an environment in which our material can be controlled, we shall recognize that phthisis is only one manifestation of a "constitutional" disease. We shall begin to realize that to classify our cases on the invasion and destruction of one organ is unjustifiable, and we shall, I believe, discard any such anatomical classification of phthisis. I hope for the substitution of a scientific method for the estimation of systemic disturbance, a method providing a more exact biological measurement of such disturbance as that caused by the tubercle bacillus. I look to the future with much hope, and to the BRITISH JOURNAL OF TUBERCULOSIS for its continued lively interest in all branches of investigation in the tuberculosis world.

FROM BERNARD HUDSON,

M.A., M.D., M.R.C.P., Swiss Federal Diploma,

Medical Superintendent, Victoria Sanatorium, Davos; late Medical Superintendent English Sanatorium, Montana, Switzerland.

There has undoubtedly been a great advance in the understanding of the problem of tuberculosis during the past twenty years, especially in the early recognition and subsequent treatment of the disease, especially in its pulmonary form. As regards treatment, the greatest advance has been developed along surgical lines, such as artificial pneumothorax, phrenic nerve avulsion, and plastic operations. As regards tuberculosis involving bones, joints, glands, serous membranes, etc., the tendency has been to eschew as far as possible surgical interference, and to adopt a conservative policy of rest, splinting devices, and the use of sunlight, and actinotherapy. The work of Rollier and Gauvain is especially noteworthy in this respect. Much has also been done in the way of educating people in the hygienic management of their children and to observe prophylactic precautions against tuberculosis. The education of the tuberculous in various trades has also made great progress, striking examples being found at Alton Park and the Cambridgeshire colony at Papworth. The BRITISH JOURNAL OF TUBERCULOSIS during the past twenty years has played a leading part in furthering progress and in providing

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reliable information for medical advisers, and indeed for all serious students of the tuberculosis problem.

FROM G. LISSANT COX,

M.A., M.D.,

Central Tuberculosis Officer Lancashire County Council; Vice-Chairman Joint Tuberculosis Council; Ex-President North-Western Tuberculosis Society and North-Western Branch Medical Officers of Health Society.

It is some forty years since Sir Robert Philip started his first dispensary scheme at Edinburgh, and it is fourteen years since the Departmental Committee on Tuberculosis issued their recommendations for the prevention and treatment of tuberculosis by public authorities. The BRITISH JOURNAL OF TUBERCULOSIS, first published with much foresight twenty years ago, has done valuable service, particularly as a medium for conveying the views and experience of those engaged in the various phases of tuberculosis work, and by this means stimulating and co-ordinating effort. There is, however, still very much to do if tuberculosis is to be effectively dealt with; hardly any tuberculosis scheme is complete, and most are very inadequate for the difficult work of prevention. Interest must not be allowed to wane. A high degree of efficiency must be aimed at; the tuberculosis officer must be a consultant in fact, and not a sham one; he must be expert enough in his special branch to command the confidence of the family doctors, and must have at his disposal up-to-date facilities for diagnosis, together with a sufficiency of accommodation for the various types of cases requiring institutional accommodation—pulmonary, non-pulmonary, the difficult combined pulmonary and non-pulmonary cases, adults and children, in the early and also in the advanced stages of all forms of tuberculous disease. If the tuberculosis officer is a jack-of-all-trades, whose work covers only a small area or population, then little progress will be attained in the prevention of the disease. We look to the BRITISH JOURNAL OF TUBERCULOSIS for its assistance in developing the tuberculosis movement in the future as in the past.

ORIGINAL ARTICLES.

A TUBERCULOSIS VILLAGE SETTLEMENT.

By P. C. VARRIER-JONES,

M.A., M.R.C.S., L.R.C.P.,

Medical Director of the Papworth Tuberculosis Colony and Village Settlement ;
Honorary Medical Director, British Legion Village, Preston Hall ; and
Lecturer on Tuberculosis, State Medicine Syndicate,
University of Cambridge.

A WORK of the first importance has recently been undertaken by a sub-committee of the Joint Tuberculosis Council. It is a report on the employment of the consumptive. While this is not the first attempt to bring into true perspective the problem which all workers in the tuberculosis world are anxious to solve, it appears at an opportune time. The conscience of the nation is thoroughly roused by the problem of unemployment, and involved in this, indeed, inseparable from it, is the problem of the employment of the sub-standard man, who swells the figures of unemployment more than is altogether realized.

While economic conditions are responsible for the great mass of unemployment amongst the able-bodied workers, these same economic conditions intensify the difficulties for the sub-standard man, who is the least in demand in the labour market. When we are dealing with the latter it is true that we have an added factor to take into consideration—viz., disease, or, in other words, the abnormal functioning of an organ or organs. When we speak of an abnormal organ, we necessarily imply a comparison with one which we describe as normal ; under conditions in which our so-called normal organ works, our abnormal organ will not function. Up to the present our attention has been directed to the ways and means of restoring the abnormal organ to its normal condition—in other words, we have concentrated our attention on the “cure.” When we have failed to bring about a restoration of its normal functions and thus fallen short of our aim, an endeavour is still made by various methods to induce the damaged organ to perform the work of the normal one. Now it is obvious that an organ may be damaged in varying degree ; not all are damaged alike, nor to the same extent. A certain, albeit a limited, function may possibly be performed as perfectly by a defective organ as by one not so damaged, but in the performance of this limited function the damaged organ has gone all out, while the normal one has exerted only part of its energy. Are we to discard this damaged organ although the limited function is perfectly performed, merely because it does not attain the output of the normal organ when it performs work to the

best of its ability and without undue strain? Looking at disease from this angle, it seems as if such rejection must surely be a waste of material. We are not, however, making the best use of the machine. We may adopt one of two methods—either scrap the machine, or give it special conditions in which to work. In the mechanical world a good and progressive firm would undoubtedly adopt the former plan. But we are dealing with the human machine, with a sensitive piece of mechanism capable of self-expression—a machine with a will of its own, capable of efforts in various directions, given suitable environment. There are all grades and kinds of environment in which normal people can live and work, but there is always for each individual a "best" environment in which his best work or endeavour is done. Let us take, for example, the psychological environment, which for brain workers is a matter of first-class importance. One person may turn out material in an atmosphere which is absolutely antagonistic to another. Which shall we call the normal worker, or indeed, which shall we call the normal environment? We have for too long considered the worker only, and paid little attention to his environment. We speak of the normal and subnormal worker, the normal and subnormal organ, but we have not fully considered the other side of the equation, the normal or subnormal environment, except in its gross form. The infinite number of deviations from the usual in the matter of environment has only now begun to be studied. It is a matter of great importance. What is a normal environment for one man is certainly not a normal environment for another, yet we should hesitate to describe the one individual as abnormal and the other as normal. How far minute differences in environment determine even the industrial efficiency of the worker is up to the present almost an unexplored country. We are beginning to take preliminary observations; we are beginning to map out the coast lines; we have hardly landed from the ships, and the hinterland is unknown to us. If we have so far made few observations with regard to the so-called normal man in this strange land, how far are we behind with our measurements with regard to the abnormal or sub-standard worker?

The Employment of the Consumptive.

I welcome the report on the employment of the consumptive drawn up by a sub-committee of the Joint Tuberculosis Council, because it is bound to develop into a research into the, at present, unknown land. It is true that the problem is not in this Report considered from the angle I have indicated. A preliminary view could hardly be expected to include it, and the mass of detail about the superficial aspect of the material side of the question will fall into place later on.

The employment of the consumptive is not simply a question of setting up workshops and procuring markets for the sale of the products

of such workshops; that is only a part of the means whereby the problem may be tackled and studied. That is what I would call the material side; but the multiplication of such workshops, and their



PAPWORTH TUBERCULOSIS VILLAGE SETTLEMENT.

Part of village, showing some new houses, and indicating open-air sleeping balcony for the tuberculous settler.

amplification and enlargement in various parts of the country, will not bring us much nearer the solution of the problem, *if we leave the matter there*. Something deeper, a study of the fundamentals, is required if we are eventually to reach the final solution. In their present stage, if we

take only the successful running of workshops into consideration, vitally important as they are, we shall not make much progress. The successful running of a Village Settlement should be a field of study of



THE PAPWORTH TUBERCULOSIS SETTLEMENT: THE TRUNK AND PORTMANTEAU DEPARTMENT.

Note glass roofing on north aspect and special open-air windows.

the tuberculosis problem as a whole. The Village Settlement idea may be divided into two parts—one, the material side, which is easily grasped by any casual observer, but which, alas, is so often mistaken for the second, the fundamental. Now the material side is capable of

adjustment in an almost infinite number of ways, but as far as I have observed may, in the long run, be of little or no use in solving the problem. By itself and in itself it may be valueless, it is supplementary



THE PAPWORTH TUBERCULOSIS SETTLEMENT: THE CABINET-MAKING WORKSHOP.

to the fundamental side. As time goes on this aspect of the question impresses me more and more. As I have said above, some men are capable of great effort in a psychological environment which seems to be utterly unsuited to others. It is this psychological environment

which must be studied intensively, and which must surround and impregnate the material side in order to produce the milieu in which the sub-standard man can live and work. When I see certain material factors singled out as being the crux of the question, such as "the entire prosperity of Papworth is due to its turnover" or "under the same direction Papworth would be a failure if markets for the goods were not forthcoming," and "that they are able to compete in the open market at competitive prices on a *relatively large scale* is probably the greatest secret of the Papworth successful experiment," I am filled with dismay. It is a half truth, a superficial glance at what is taking place. From the material point of view the conclusions may be true enough, but the employment of the consumptive will not be solved by any such simple means. "Markets," "the sale of goods," "thorough business methods," are only means to an end, not the end itself: essential aids to our work, but only aids. We should have been more successful from the beginning if we had more thoroughly grasped the fundamental side and understood all it meant. People write and talk of the "secret of Papworth" as if it were some mystery. In so far as a mystery is something we do not completely understand, there is still a mystery. So there is in all the fundamental things of life; but as time goes on and our understanding of the situation becomes more complete, the mystery tends to disappear. It is the study of this mysterious element which is the next great step in the conquest of disease.

The editor of *Discovery* sums up the situation very aptly when he writes: "The mind of man—the social organization of man—the health of man—these seem the largest untrodden fields. We walk up and down outside the old fences. How many of our philosophies and psychologies yet can be sure that they are more than frail fabrics of a year's fashion? And how far from its beginnings has the serious study of economic and social questions in their widest sense yet been carried? In medicine the conquests which we so proudly (and rightly) acclaim serve to throw into relief the unmeasurably greater mysteries still unsolved. It is pardonable to believe that the physician with a knowledge of human nature and a good share of human sympathy finds more use in these possessions than in all the drugs in his control."

A GENERAL SURVEY OF TUBERCULOSIS IN INDIA.

By C. MUTHU,

M.D.,

Physician, Mendip Hills Sanatorium, Wells.

THE problems presented by tuberculosis in India are much vaster and more complicated than those met with in England or America. While tuberculosis has been steadily declining in Europe and the United States during the last forty or fifty years, it is slowly increasing in India, particularly in all the principal cities and manufacturing and commercial centres. It is extending from the towns into the villages, where the middle and working classes, after getting infected in the towns, go home to die. By close investigation, during my recent travels throughout India, I am driven to the conclusion that the annual mortality from tuberculosis cannot be less than nine hundred thousand to a million—*i.e.*, India yearly loses a number equal to the population of Bombay or Calcutta. In the Bengal Presidency alone, which has a population equal to that of Great Britain and Ireland, there is an annual mortality of 100,000 from tuberculosis. Women suffer more severely than men. In Calcutta the mortality among females of child-bearing age is six times as much as amongst males, owing partly to the badly lighted and ill-ventilated condition of the zenanas where they live. Pulmonary tuberculosis runs an acute course amongst Indians, and usually proves fatal within six months to a year: more than 70 per cent. of cases one sees are in the advanced stage. In but a very few patients is the disease either recognized or treated in the early stage.

Causal Factors.

To understand such a deplorable state of things one must remember the following facts: There is no country in the world where poverty and destitution are so appalling as in India, where millions of people are living at the very margin of subsistence. There is no other country where epidemics like cholera, plague, influenza, etc., carry off many thousands of people year after year. There is no country where still-births are so common and where infant mortality is so fearfully high: the death-rate, as in Bengal, actually exceeds the birth-rate.

Besides the tropical heat and dust, overcrowding and insanitation, malaria and other continued fevers—all of which fan the flame of the disease—the social customs and prejudices of centuries, such as the caste system, the purdah system, and child marriage, have helped to undermine the vitality of the people, so that at the very touch of tuber-

culosis thousands of them fall victims to the disease. The system of child marriage is a terrible evil, and when accompanied with poor food and insanitary conditions accounts for a large number of still-births. In Bengal Presidency alone, which is as large as Great Britain and Ireland, there were 64,000 still-births in 1924. Thousands of young women contract tuberculosis after their first or second confinement.

Remedial Measures.

Any remedial measures to be effective and to reach the masses must be comprehensive and should be undertaken by the Government and the various municipalities, as private philanthropy alone is too powerless to cope with the gigantic problem among 320 millions of people. At present there are seventeen or eighteen homes and sanatoria distributed all over India for the treatment of tuberculous disease. Besides these, there are special wards opened in various hospitals in India for the admission of consumptive patients. The provision of a greater number of sanatoria all over the country would greatly help the anti-tuberculosis movement. For some time to come they would serve more as educational than curative centres till the importance of early diagnosis and early treatment became a common knowledge among the people. But the patients when they left these institutions would take with them the lessons they had learnt there, and spread the gospel of fresh air and clean living among their friends and relatives, and thus help to break down the age-long customs and habits which have kept India backward among the nations of the world.

Poverty in India is more intimately associated with tuberculosis than any other causes. My experience in India has more than ever convinced me that tuberculosis is a social and economic disease, and that any improvement in the social and economic conditions of the Indian people would, by raising their resisting powers and general well-being, go to reduce the incidence and mortality of the disease, just as it has done in England and elsewhere. As agriculture is the mainstay of 300 millions of Indians, any improvement in the agricultural and dairy industry in India would mean the production of better crops and more food and the cheapening of the necessities of life. This, by raising efficiency, would in time lower the death-rate of tuberculosis. Hence great hopes are entertained by the Indian people from the Agricultural Commission that has lately been appointed by the Government of India.

Immediate Measures.

For immediate measures, I have advocated a Group System inaugurated in every town and municipality, of a dispensary in the heart of the town, a sanatorium a few miles from every city, a hill sanatorium, a marine sanatorium for children, and a garden colony. In another

GENERAL SURVEY OF TUBERCULOSIS IN INDIA 25

article I hope to go more fully into this part of the treatment. Here I can only emphasize the great importance of the last item in the group system—viz., the village colony. The social, the sanitary, and poverty conditions are so bad in India that the dispensary and the sanatorium measures may not accomplish much in the way of eradication of tuberculosis in the present generation. But much can be expected from the establishment of village settlements outside every town where, by taking hold of the children of tubercular parents and surrounding them with a healthy environment, by treating very early or threatened cases of consumption, and by providing ideal homes for ex-patients and their families, we shall be able to deal a death-blow to tuberculosis and to save the next generation from being overwhelmed by this cruel disease.

THE AMERICAN NATIONAL TUBERCULOSIS ASSOCIATION.

By PHILIP P. JACOBS,

PH.D.

Publicity Director of the National Tuberculosis Association of the United States,
New York City.

THE National Tuberculosis Association of the United States is a voluntary organization of physicians, laymen, and associations formed in 1904 for the purpose of developing ways and means to study, control, treat, and prevent tuberculosis. The definite purposes of the Association, as stated in the by-laws, are as follows: The study of tuberculosis in all its forms and relations. The dissemination of knowledge concerning the causes, treatment, and prevention of tuberculosis. The encouragement of the prevention and scientific treatment of tuberculosis. The stimulation, unification, and standardization of the work of the various anti-tuberculosis agencies throughout the country, especially the state and local associations. The co-operation with all other health organizations in the co-ordination of health activities. The promotion of international relations in connection with health activities in the study and control of tuberculosis.

The membership on January 1, 1926, consisted of 368 corporate members, including 52 state and affiliated associations, and 255 tuberculosis associations and sanatoria, and 2,069 individual and life members. The membership is diverse in interest, and represents every part of the United States. Early in its existence the Association developed a fixed policy of organizing state and local tuberculosis associations. As these organizations were completed it became necessary to give them a

definite voice in the conduct of the Association; such an arrangement was formally effected in 1921. The Association is governed by a board of representative directors from each of the state associations and by fifty directors at large. The Board of Directors usually meets twice a year and the Executive Committee about five times a year. There is also an annual meeting of members.

It is difficult to outline in brief space the services of the National Association, particularly in view of the fact that most of them are not performed directly for individuals, but primarily for state and local associations affiliated with the national body. In order, however, to give a partial view of the principal activities, the following outline of projects being carried on by the Association is presented:

1. *Administration.*—The administration of the Association and the maintenance of relationships between its more than 1,100 state and local associations is a project in and of itself. The staff, numbering between forty and fifty people at all times, involves also a considerable amount of work, as does the maintenance of relationships with affiliated and co-operating organizations outside of the immediate tuberculosis field, particularly those in the National Health Council.

2. *Business.*—The accounting and business service involves the handling of supplies amounting to more than \$200,000 a year. It also involves the development of standard business and book-keeping records on the part of state and local associations.

3. *Medical Service.*—This includes several activities: (a) The institutional service for the development of the highest possible standards of construction and maintenance of tuberculosis sanatoria and hospitals; (b) the promotion of better instruction in schools of medicine and nursing, with particular emphasis on tuberculosis; (c) the development and maintenance of friendly relationships with health departments and other official agencies; (d) co-operation with medical societies of all sorts; (e) the supervision of the other activities of the National Association and the giving of medical advice and information so far as this is ethically proper and consistent.

4. *Publicity.*—The Association operates its Publicity Service in various ways: (a) Through newspapers and periodicals; (b) by the distribution of posters, pamphlets, circulars, and other printed matter; (c) through talks, lectures, conferences, and meetings; (d) by means of motion pictures, exhibits, and other graphic methods; (e) by the promotion of child health education through public schools.

5. *Personnel.*—The growing field of service requires not only the maintenance of a definite personnel service, but facilities for training of workers, including those already employed in the tuberculosis field and the apprentices and new workers coming into the field.

6. *Publications.*—The Association acts as a clearing-house for publi-

cations of a technical and scientific character, as well as for printed matter of a more or less popular character, for the entire field of tuberculosis. In addition to the occasional publications issued, the Association has several periodicals, including: (a) *The American Review of Tuberculosis*, a scientific medical journal; (b) *The Journal of the Outdoor Life*, a popular lay journal; (c) *The Monthly Bulletin*, a house organ; (d) annual volume of Transactions.

7. *Child Health Education*.—For ten years the Association has been interested in promoting child health education through the schools. This project involves: (a) Training of teachers to teach health; (b) the stimulation of school boards and educators to install health teaching in their schools; (c) the development of methods of teaching that will be sound pedagogically and medically.

8. *Fund Raising*.—The Christmas seal sale, conducted annually during the month of December, is the primary means of support for national, state, and local tuberculosis associations in the United States. The Association is the headquarters and proprietor for the seal sale and issues the seals and other supplies used. This involves, during the year 1926, the printing of more than 1,500,000,000. In addition, there are quantities of other types of printed matter.

9. *Medical Research*.—The Association has an additional co-ordinated programme of medical research carried on through universities and research institutions throughout the United States, under the active supervision of the Medical Research Committee.

10.—*Statistical Research*.—In the field of statistical research, the Association has its own staff, and also stimulates statistical research through its state and local associations.

11.—*Field Service*.—This service of the Association carries on such activities as the following: (a) The adjustment of local problems and difficulties; (b) the stimulation of proper programmes and methods; (c) the survey of specific problems of organizations or relations; (d) the conduct of meetings, conferences, or institutes.

The work of the Association is supported chiefly from the annual sale of Christmas seals. Five per cent. of the gross proceeds from the Christmas seal sale throughout the United States goes toward the support of the National Tuberculosis Association. A very small amount of additional revenue comes from membership dues and from the surplus on the sale of supplies of various kinds.

Fully to understand the National Tuberculosis Association, one must also appreciate the affiliated state and local associations. The association is a part of a larger movement comprehending these local groups scattered throughout the country, and also embracing such institutions as tuberculosis hospitals, sanatoria, clinics, nurses, open-air schools, and a variety of other agencies. The annual Christmas seal

sale, sponsored and directed by the National Association, supports the local and state associations as well as the National Association. The money derived from the seal sale, in accordance with the general policy laid down by the National Association, is used very largely for education and organization, with the view to stimulating individuals to a proper realization of their own personal health, and also to a realization of their responsibility as citizens for the health of the cities, towns, counties, and states. Thus the money derived from the seal sale has, by education, been multiplying itself many times through the erection of institutions, the provision of nurses, the establishment of open-air schools, clinics, and similar agencies.

The National Tuberculosis Association is primarily a service agency for the state associations, and through them for the local associations. In a certain sense, the state associations act as the wholesale distributing agencies for the Association, while the local associations serve as the retail agencies transmitting the messages of health responsibility to the individual in the various communities throughout the country. This form of organization has been found from experience to be the most satisfactory and economical for administrative and other purposes.

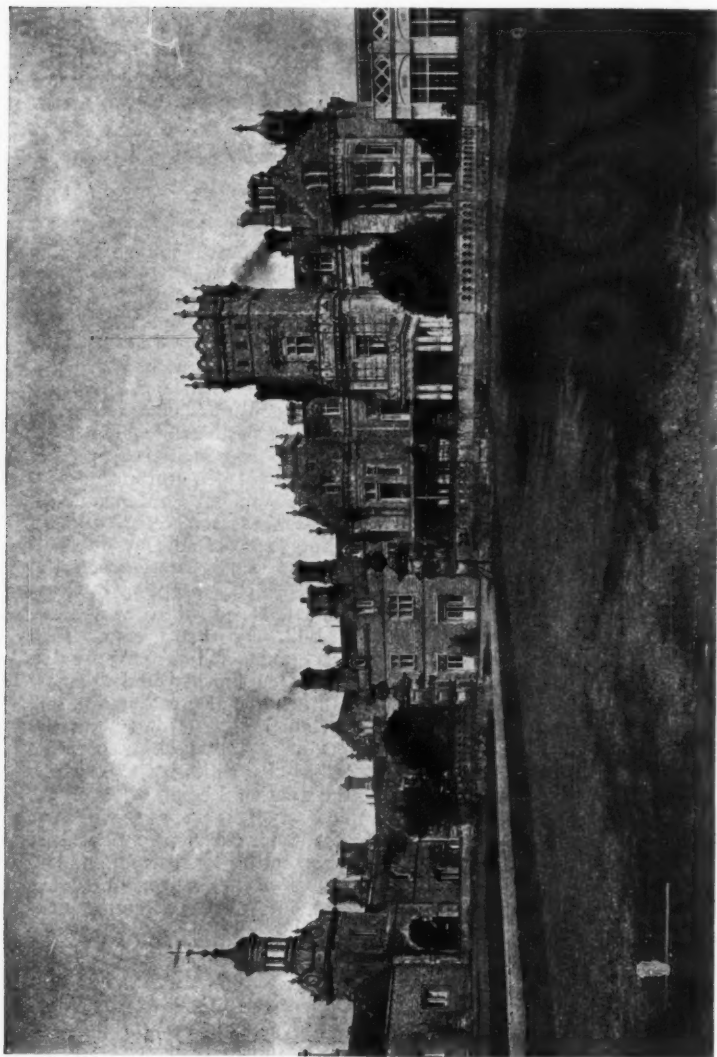
In conclusion it should be noted that the National Tuberculosis Association is only one factor in the entire national tuberculosis movement in the United States. Some of the other factors involved are the state associations, the local associations, numerous sanatoria and hospitals, the dispensaries and clinics, open-air schools and preventoria, and the public health nurses.

ASSOCIATIONS AND INSTITUTIONS.

THE BRITISH LEGION VILLAGE FOR TUBERCULOUS SETTLERS.

WE are indebted to Dr. P. C. Varrier-Jones, Medical Director of the Cambridgeshire Tuberculosis Colony and Papworth Village Settlement, and Hon. Director of the British Legion Village, Preston Hall, Aylesford, Kent, for the following account of the interesting Tuberculosis Settlement in Kent. The British Legion Village Colony for Tuberculous Subjects is beginning to be stabilized after a long period of reconstruction and readjustment. The twenty months since the British Legion took over Preston Hall from the Industrial Settlements Incorporated have been months of hard and continuous labour, but at last we are beginning to evolve a true Village Settlement. The Hall is now a hospital, with a capacity of over 100 beds, including open-air verandas, roofed with vitaglass for the treatment of surgical tuberculosis. It is a very essential part of a Village Settlement. A sanatorium block of forty-five beds has been erected, complete with dining and recreation rooms. The huts are of the well-known "Papworth" type, facing south. The sanatorium is another essential of the Village Settlement. A new hostel for the reception of those patients who are getting nearer to permanent settlement in the Village, and for single ex-patients, has been built by the Preston Hall Industries, with accommodation for forty men, and the twenty-five houses in course of erection in 1925 have been finished and are now occupied. Another twenty cottages are in course of erection, and will be finished by June, 1927. More important still, a strong industrial section has been built up, and we now have a flourishing portable buildings department and a well-equipped printing shop, which undertakes orders from branches of the British Legion all over the country. The scheme is now complete—that is to say, we have a hospital, sanatorium, hostel, cottages, and workshops. A Village Settlement such as this offers unique opportunities for research, and in the hospital laboratory investigations have been carried out on the mechanism of reaction to infection, and, in particular, on the non-specific chemical factors of resistance.

Dr. C. Muthu, Medical Superintendent of the Mendip Hills Sanatorium, Wells, has completed twenty-seven years of sanatorium work in England in January this year. One of the early pioneers of the open-air movement in this country, he commenced sanatorium treatment at St. Lawrence, Isle of Wight, in 1899. Not satisfied with the low altitude of the island, he removed to the Mendip Hills in 1902. Dr. Muthu is well known as a pioneer. In his book on "Pulmonary



THE HOSPITAL AND ADMINISTRATIVE BUILDING OF THE BRITISH LEGION VILLAGE, PRESTON HALL.

Tuberculosis" he has made some original contributions to the medico-sociological aspects of the problem. He is a great believer in graduated exercise and continuous medicated inhalation in the treatment of pulmonary tuberculosis, and has devised an oro-nasal inhaler for the latter purpose. Dr. Muthu has paid several visits to India to study tuberculosis in that country and to arouse public opinion, and he has made a confidential report to the Government of India on the prevalence of tuberculosis among the natives of India, proposing various means for combating the disease in that country. We congratulate Dr. Muthu on the long and excellent service which he has rendered to the tuberculosis movement both in England and in India.

The Cambridgeshire Tuberculosis Colony, Papworth, have issued the last Report of the Medical Director in the form of an illustrated album with text giving full particulars regarding the development of this pioneer enterprise for providing a Settlement for tuberculous workers.

The Rockefeller Institute for Medical Research, Avenue A and 66th Street, New York City, is rendering a world-wide service by the issue of its series of "Studies." We have been favoured with copies of recently issued volumes. These contain reprints of communications which have appeared in various periodicals. All interested in medical research should make a point of seeing these valuable "Studies."

New Health, the official journal of the New Health Society, edited by Sir W. Arbuthnot Lane, Bart., C.B., has just completed its first year. The January issue contains an "Artificial Sunlight Supplement" containing articles by Dr. Ivo Geikie Cobb, Dr. C. W. Saleeby, Dr. A. Eidinow, and Professor E. C. C. Baly, with several instructive illustrations.

The next International Tuberculosis Congress is to be held at Rome next year, under the presidency of Professor Raphael Paolucci, president of the International Federation against Tuberculosis.

Dr. Camac Wilkinson is glad to see members of the medical profession at his Tuberculin Dispensary, 32, Fitzroy Street, London, W. 1, on Mondays and Thursdays from 2.30 to 5 p.m.

We shall be glad to receive copies of the Annual Reports of Medical Officers of Health, Tuberculosis Officers, Medical Superintendents of Sanatoria, and authors of all publications relating to the Tuberculosis Problem.

NOTICES OF BOOKS.

LATENT PULMONARY TUBERCULOSIS.

THE problem of definite pulmonary tuberculosis is so vast that text-books of medicine usually devote little or no attention to latent tuberculosis of the lungs. Dr. Rieux¹ has published a suggestive brochure on the subject, which he has approached from an angle which regards latent pulmonary tuberculosis as being a manifest tuberculous implantation in the glandular-pleuro-pulmonary system; a localization whose tuberculous nature is proved, but the evolutive character of which can neither be affirmed at the time of investigation by clinical signs, nor by the absolute criterion of the discovery of the tubercle bacillus. Hence one may say that latency begins with occult, to end in incipient, pulmonary tuberculosis, thus comprising, from the point of view of healing, both abortive and regressive forms. The author bases his diagnosis of latent pulmonary tuberculosis upon a combined consideration of personal and family antecedents, of X-ray findings, and of biological investigations, of which latter Dr. Rieux regards the complement-fixation test as by far the most important. In other words, every individual who gives a positive reaction is secreting tuberculous antibodies, and consequently is defending himself against a tuberculous process which, in the present consideration, is occult in the majority of cases. Such a study as Dr. Rieux has undertaken necessarily involves a critical review of the various modes of implantation, development, or regression of the tuberculous process as affecting the lungs, and this the author has made in an interesting manner, although not all clinicians will be inclined to agree absolutely with his conclusions. Any help, however, that one can get in the diagnosis of a condition which may lie hid for months or even years and then become evidenced by symptoms of incipient tuberculosis, deserves cordial recognition.

J. F. HALLS DALLY, M.D.

THE LIPOID BODIES OF THE TUBERCLE BACILLUS.

Dr. Mattausch has published an interesting brochure on the processes of immunity as related to the lipid bodies of the tubercle bacillus.² The investigations are based on certain well-known facts. About 40 per cent. of the tubercle bacillus consists of fatty substances—namely, neutral fats, waxes, and fatty acids. The lymphocytes produce a lipolytic ferment, and if this is present in great quantity more bacilli of Much's type are present, and the case presents a benign type of phthisis. It is of importance to note in this connection that the caterpillar of the moth which feeds on beeswax, and would therefore

¹ "La Tuberculose Pulmonaire Latente," by J. Rieux. With 12 reproductions of thoracic radiograms. Pp. 247. Paris: Gaston Doin and Co., 8, Place de l'Odéon. 1926. Price 36 frs. 40 cents.

² Das Problem der Tuberkulosebehandlung mit Fettstoffen. By Dr. Mattausch. Pp. 66; with 9 temperature charts. Berlin: Urban and Schwarzenberg, Friedrichstrasse 105a. 1926. Price M. 2.40.

be expected to have adequate lipolytic ferments, is immune against infection with tuberculosis. The bacilli disappear a few hours after injection, having passed through a phase of Much's type. The value of the lipid substances is also shown by the fact that histologically typical tubercle formation can be obtained by injecting pure preparations of tubercle bacilli lipid extracts into living tissues. Also focal reactions in a tuberculous organism can be produced by injecting these lipoids. An analogy to this fact is well known in the treatment of leprosy by Chaulmoogra oil, which, injected into a leper, produces acute inflammation and sloughing of the diseased areas. Other authorities have shown that by injecting fatty substances foreign to the body the lipolytic power of the serum is increased. Mattausch has worked out on guinea-pigs a specially powerful mixture of foreign fats, waxes, and lipoids, commercially known as Gamelan or Lipomykol. He then tested its effect on antibody formation in the human subject by Deyke-Much's method, and found an increase on the reacting power of the body cells against neutral fats; coincidentally the blood-film showed improvement in diminution of eosinophils and polymorphs, and increase of lymphocytes and monocytes. He produces nine temperature charts of clinical cases which are rather convincing.

E. ZIMMERLI, M.D.

RADIOLOGICAL STUDIES OF TUBERCULOSIS.

Professor Sergent has prepared a volume of 531 pages, containing 69 diagrams and 31 plates, two of which are in colours, being a considerable collection from his studies carried out between 1919 and 1924.¹ The articles are arranged and edited according to their subjects. The original papers were contributed to current medical journals or were read at the meetings of societies or conferences, and discussions which followed many of them are included. As indicated in the title the range covered is considerable, but the greater part of the book is devoted to various clinical aspects of tuberculosis. The style of most of the papers is didactic, the author expressing his views with clearness and precision, many points being emphasized by the use of italics. Tuberculosis is treated as essentially an infection of infancy or early childhood, with recrudescence or reinfection of imperfectly immunized individuals, at certain ages when the human organism appears to be more susceptible. Calcium elimination and retention is considered, and many pages are devoted to the reactions of pregnancy in tuberculous subjects. The association of syphilis with tuberculosis is discussed, and a type of patchy fibroid phthisis with calcification in the glands and elsewhere is regarded as being characteristic of a combined infection. Diagnosis is treated fully and lucidly. The various signs and symptoms are explained and their value weighed. Attention is given to the occurrence of hyperthyroidism in the tuberculous, and illustrative cases are described in detail. Various complications, such as septicæmia, are considered, and the case of latent tuberculosis is fully discussed. The regional manifestations of the disease are dealt with at length. This is the most valuable part of the

¹ "Nouvelles Études Cliniques et Radiologiques sur la Tuberculose et les Maladies de l'Appareil Respiratoire." By Émile Sergent, Pp. 531. Paris: Norbert Maloine. 1926. Price 65 frs.

book. Clinical skill based on experience is combined with a sound knowledge of underlying pathology, and the uses of such modern methods as cinematograph records of respiration and the injection of lipiodol are included. Several papers were contributed to the question of prophylaxis and the anti-tuberculosis crusade. Professor Sergent is an ardent believer in the value of radiology in the diagnosis, elucidation, and observation of diseases of the chest. Many radiographs are reproduced, each being selected to illustrate some particular point, a considerable number showing the appearances found after lipiodol injections. At the end of the book there are short papers on various subjects, including the pleura, syphilis, hydatid disease, asthma, and aortic aneurism. A volume of collected papers must needs suffer to some extent from the nature of its origin, but the subject of tuberculosis is here treated so fully that the book can be recommended for its comprehensive study of that disease.

J. E. A. LYNHAM, M.D.

CHRONIC PULMONARY TUBERCULOSIS.

Dr. A. Sternberg has issued a little work which gives an exceedingly clear and concise view of the very difficult and much vexed question of the classification of chronic pulmonary tuberculosis.¹ The author points out that the simple diagnosis of *tuberculosis of the lungs* does not give a clear or correct idea of the illness, at any given time, nor of the treatment or prognosis; therefore some sort of classification of this disease is necessary. This classification naturally only concerns the *chronic* forms, the active, spreading, and miliary forms being impossible to classify in this manner. The author mentions that the ideal classification should be a simple affair, able to be estimated by the average general practitioner, and without going into the finer points, such as the use of X rays, etc. He then describes the new Turban classification, and that adopted by the Second Tuberculosis Congress of Moscow, and rather favours the latter grouping as being the simpler and more practical. The book is very well worth study, and the author's ideas are exceedingly clear and concise.

BERNARD HUDSON, M.D

HIGH BLOOD PRESSURE.

Dr. Halls Dally has recently issued a revised and enlarged edition of his monograph on high blood pressure which appeared in 1923.² It is a useful guide to the measurement of human arterial blood pressure and the application of the methods to clinical medicine. A detailed description is given of the means for obtaining correct estimations of the

¹ "Über die Klassifikation der chronischen Lungertuberkulose," von Professor Dr. A. Sternberg, Director de Staatsinstitut für Tuberculoseforschung in Leningrad. Leipzig: Johann Ambrosius Barth. 1926.

² "High Blood Pressure—Its Variations and Control: A Manual for Practitioners." By J. F. Halls Dally, M.A., M.D., B.Chir., M.R.C.P., Physician to the Mount Vernon Hospital for Tuberculosis and Diseases of the Heart and Lungs, Senior Physician to the St. Marylebone General Dispensary. Second edition, revised and enlarged, with new illustrations, charts, and tables. Pp. xvi + 196, with 30 figures. London: William Heinemann (Medical Books), Ltd., 20, Bedford Street, W.C. 2. 1926. Price 12s. 6d. net.

blood pressure, and reiterated insistence made on the prime importance of the diastolic pressure in what is called "the complete arterial pressure picture"—the figures for the maximal, minimal, and differential (pulse) pressures, and the description of the rate and character of the pulse. The author proceeds to consider the physical and physiological factors underlying variations of blood pressure. This is the weakest section of the book. The principles of the mechanics of the heart and vessels laid down by Cohnheim were correct as a theoretical basis for argument, but a statement of the present-day position of the physiology of the circulation is inadequate without references to the results of Starling and his co-workers in this country and of Wiggers in America. The author's classification of hyperpiesis according to the predominance of either overaction of the heart or overloading of the resistance, therefore, is too simple to be used for any but elementary teaching. The clinical part of the book, on the other hand, gives a good summary of present-day ideas on the causation, symptoms, and treatment of high arterial pressure. Dr. Fortescue Fox has contributed a useful appendix on the treatment of high arterial pressure by baths and waters. In a chapter on arterial pressure in pulmonary tuberculosis the blood pressure is described as varying inversely with the toxæmia rather than with the extent of the invasion of the lung by the tuberculous process. Cyriax had observed, in cases of pulmonary tuberculosis, that the maximum blood pressure on the affected side was as a rule higher than on the healthy side. The author's analysis of sixty-six patients, however, shows no correspondence between the height of the blood pressure and the preponderance of the disease on one or other side of the chest. The book may be recommended as a useful handbook to sphygmomanometry and its application to clinical medicine.

S. W. PATTERSON, M.D.

ANTI-TUBERCULOSIS WORK IN FRANCE.

The French National Anti-tuberculosis Committee have published a comprehensive volume in order to bring before practitioners in a co-ordinated form all the efforts and institutions the aim of which is to treat and stamp out tuberculosis in France.¹ The numerous departmental organizations, sanatoria, preventoria, tuberculosis dispensaries, hospital services, colonies, schools of visiting nurses, schools of hygiene, and post-graduate instructional centres are described in alphabetical order under the various departments into which the country is divided. Any inconvenience that might be caused by the geographical rather than a generic classification of these establishments is remedied by excellent statistical and alphabetical tables at the end of the volume. It is a most useful and valuable handbook.

F. G. CHANDLER, M.D.

HEALING IN PULMONARY TUBERCULOSIS.

Phthisio-therapy cannot guarantee a radical cure for pulmonary tuberculosis, but under modern methods of management many cases are restored to a measure of health and able to participate in life's

¹ "L'Armement Antituberculeux Français." Introduction de M. M.-Léon Bernard et G. Poix. Deuxième édition. Pp. 328. Paris: Masson et Cie., 120, Boulevard Saint-Germain VI^e. 1926. Price 4s. 2d.

activities. Dr. Marc Jacquerod, of Leysin, is convinced that a natural and spontaneous cure will eventually be discovered, and in his latest work he seeks to set forth grounds for his hope.¹ His main aim is to explain why tuberculosis of the lungs yields to treatment in some cases and not in others, by what anatomical and biological processes cures are effected, and to indicate what are the indispensable conditions for obtaining arrest of the disease. The work opens with a consideration of the nature of tuberculous lesions involving the lungs, and this is followed by an explanation of the natural healing processes. A suggestive chapter deals with deductions relative to treatment by the production of artificial pneumothorax. The greater part of the volume is devoted to an account of cases. The original work has been well translated by Dr. Denny Sinclair, and there is a fine and instructive series of skiagrams and other illustrations. Dr. Jacquerod's original study deserves the serious consideration of all Tuberculosis Officers, Medical Superintendents of sanatoria, and, indeed, all medical advisers who are responsible for the treatment of cases of pulmonary tuberculosis.

INTESTINAL TUBERCULOSIS.

Forty years ago Dr. E. L. Trudeau with rare vision and courage founded the Adirondack Cottage Sanatorium. This has developed into the Trudeau Sanatorium and Laboratory at Saranac Lake. Many tuberculous patients have been restored to health at this world-famous centre, and from it have been issued scientific publications of the greatest value. And now a series of monographs is to be issued as "The Trudeau Foundation Studies," presenting the results of researches carried out by the staff of the Trudeau Sanatorium and Laboratory. The first is devoted to Intestinal Tuberculosis.² This is a subject which has received too little attention from students of tuberculosis, and thus the present work is one which we would earnestly commend to the consideration of all responsible for the care of tuberculous cases. The volume opens with an account of the history of our knowledge regarding intestinal tuberculosis and a description of the four chief periods—"dysenteric," tuberculous diarrhoea, pathological study, and roentgenological inquiry. Then follow chapters on the anatomy of the intestines and the normal physiology of intestinal movements. A number of chapters are devoted to detailed descriptions of the various features of the pathological anatomy, symptomatology, and clinical and other diagnostic investigations of intestinal tuberculosis. The work is of special importance and value on account of its sections on Roentgen-ray methods of inquiry. The numerous skiagrams are of particular value. Intestinal tuberculosis is said to be found in from 50 to 80 per cent. of all cases of pulmonary tuberculosis coming to

¹ "The Natural Processes of Healing in Pulmonary Tuberculosis," by Marc Jacquerod, M.D., Swiss Federal Diploma, Physician-in-Charge Grand Hotel Sanatorium, Leysin, Switzerland. Translated by J. Denny Sinclair, M.B., Ch.B. (St. Andrews). Pp. 107 with 60 X-ray illustrations and 45 diagrams. London: Baillière, Tindall and Cox. 1926. Price 6s.

² "Intestinal Tuberculosis: its Importance, Diagnosis, and Treatment.—A Study of the Secondary Ulcerative Type." By Lawrason Brown, M.D., Chairman of the Medical Board of the Trudeau Sanatorium, Saranac Lake, New York, and Homer G. Sampson, Roentgenographer of the Trudeau Sanatorium, Saranac Lake, New York. Pp. 304, with 112 illustrations. London: Baillière, Tindall and Cox. 1926. Price 18s.

autopsy. The presence of tubercle bacilli in the stools is of but little diagnostic aid, as they occur in 85 to 95 per cent. of all patients with tubercle bacilli in the sputum. An examination by Roentgen-rays after administration of a barium meal is essential if intestinal tuberculosis is to be excluded. "General hypermotility, with complete or nearly complete emptying of the colon in twenty-four hours; failure of the cecum or of the ascending colon and hepatic flexure to retain the barium; or the presence of spasm or filling-defects (irregular contour, lack of haustrations); or of confirmed segmentation, with or without dilatation of some coils of the small bowel; ileal stasis; and gastric retention are the essential points when the intestine is studied at the third to the tenth hours, and again at the twenty-fourth hour. These findings indicate ulceration only, but when pulmonary tuberculosis is present, tuberculous ulceration can be safely diagnosed." The authors claim that "No moderately or far-advanced case of pulmonary tuberculosis can be assumed to have been thoroughly examined unless a Roentgen-ray study of the bowel has been made." And they add, "This is the only method which will diagnose intestinal tuberculosis in its incipience or exclude it at any stage."

THE PSYCHO-PATHOLOGY OF TUBERCULOSIS.

Dr. D. G. Macleod Munro has added to the "Oxford Medical Publications" a small volume on the Psycho-Pathology of Tuberculosis, which psychologists and medical advisers interested in the study of tuberculous cases will welcome.¹ Opinions differ widely regarding the occurrence and relationship of psycho-neuroses and psychoses, and other mental disturbances with tuberculosis. Dr. Munro has, however, collected evidence based upon his own experience of cases and his study of the literature of the subject in a form which merits fullest consideration. In succeeding chapters he sets forth the chief features of the psycho-neuroses met with in patients in the latent, middle, and advanced stages of pulmonary tuberculosis. A special chapter is devoted to so-called phthisical insanity. A study of the sexual factor in tuberculosis raises points of practical importance such as all medical superintendents of sanatoria will appreciate, and which medical advisers in private practice have to remember. The most suggestive portion of Dr. Munro's helpful book is that which treats of the association of tuberculosis and genius, reference being made to such distinguished sufferers from tuberculous infection as Robert Louis Stevenson, John Addington Symonds, John Ruskin, Thomas Hood, de Quincey, Aubrey Beardsley, Francis Thompson, Coleridge, Keats, Emerson, Goethe, Maurice de Guérin, Honoré de Balzac, Jane Austen, John Locke, Laënnec, and Trudeau. The concluding chapter on "Psychotherapy in the Treatment of Tuberculosis" has been written in collaboration with Dr. Leonard Browne, of the Tavistock Clinic for Functional Nerve Cases, and contains some serviceable suggestions. Here is the author's conclusion: "The guiding principle of the treatment of tuberculosis should be to enlist all the patient's powers in the work of combating the disease, and this can only be done by a more

¹ "The Psycho-Pathology of Tuberculosis," by D. G. Macleod Munro, M.D., C.M., M.R.C.P.E. Pp. viii + 92. London: Humphrey Milford, Oxford University Press, Amen House, Warwick Square, E.C. 4. 1926. Price 5s.

detailed survey of the patient's resources, of which not the least are those in his own personality. Individual treatment is essential for this, and it must be carried out by a doctor who is enthusiastic and able to understand the somewhat elusive factors which go to make up personality." The monograph contains a short bibliography.

ULTRA-VIOLET RAYS IN GENERAL PRACTICE.

Dr. W. Annandale Troup has written a concise account of the therapeutic use of ultra-violet rays in general practice.¹ It is based on the author's own experience. There are condensed summaries regarding historical facts, factors in "light biology," and points of interest to biologists, pathologists, therapists, and chemists. In the chapter on technique descriptions and illustrations are given of several forms of lamp. The author appears to have used Dr. Percy Hall's tungsten arc lamp with great advantage. In the chapter on therapeutic application the following statement appears regarding tuberculosis: "Affections of bones, joints, skin and glands, and peritoneum all respond very favourably, but the utmost care is necessary in treating cases of phthisis owing to the grave risk of hæmoptysis. Tuberculous glands, if treated before pus has formed, will gradually subside, and if the glands have already broken down healing will be more rapid. The results of ultra-violet ray treatment in tuberculous disease of bones and joints is wonderful. One of the most wonderful results is the amount of movement which results from treatment of ankylosed joints. Tuberculous peritonitis is greatly relieved by general ultra-violet irradiation. The fluid in the abdomen is absorbed, and the general health improves and the weight increases."

TEMPERATURE IN TUBERCULOSIS.

Dr. Varrier-Jones has been well advised to bring together into one volume the records of a series of studies on clinical thermometry having a distinct bearing on tuberculosis.² The investigations were begun in 1912 under the direction of the late Sir German Sims Woodhead, to whose memory the book is dedicated, and were continued at the tuberculosis colonies at Abington, Bourn, and Papworth. Some of the work accomplished has been published in the *Lancet* and in the *Journal of Comparative Pathology and Therapeutics*, and in other journals. The investigation was made possible by the acquisition of the electrical continuous recording temperature apparatus originally designed by the late Professor Arthur Gamgee, and subsequently improved by the adaptation of the Darwin thread recorder and certain advantageous additions carried out by the Cambridge Instru-

¹ "Ultra-Violet Rays in General Practice," by W. Annandale Troup, M.C., M.B., Ch.B. (St. Andrews). Pp. xii + 59, with 12 figures. London: H. K. Lewis and Co., Ltd. 1926. Price 4s. 6d.

² "The Significance of Temperature Variations in Tuberculous Disease: A Study in Continuous and Quasi-Continuous Temperature Records of Man and Animals in Health and Disease," by P. C. Varrier-Jones, M.A. (Cantab), M.R.C.S., L.R.C.P. (London), Medical Director, Papworth Village Settlement; Honorary Medical Director, British Legion Village; Honorary Consulting Tuberculosis Officer to the Cambridgeshire County Council; and Lecturer to the State Medicine Syndicate, University of Cambridge. Pp. 174, with sixty-one figures. Cambridge: Papworth Press, Papworth Village Settlement. 1927. Price, paper, 3s. 6d.; cloth, 5s.

ment Company. Many friends of the Papworth Tuberculosis Settlement have helped in the conduct of the work and the production of the volume. The publication may well claim to occupy a unique place in medical literature, for it has been printed and bound and published by consumptive patients in the printing department of the Papworth Village Settlement. The volume consists of eleven studies, containing descriptions of the thermo-couple and the electrical resistance thermometer, chapters on the advent of thermometry and the carrying out of temperature records in normal and tuberculous individuals, as well as a 24-hour temperature record in tuberculin-tested cattle. There is a suggestive chapter on "Characteristic Curves" in tuberculosis. One of the most interesting sections tells of the evolution of clinical thermometry. There is a valuable bibliography. We trust that this all too short notice will be sufficient to induce tuberculosis officers, medical superintendents of sanatoria, and all medical advisers dealing with tuberculous cases, to study in its entirety this exceptionally suggestive and informing monograph of thermometric studies. Papworth and all who work in connection with this most promising adventure for the welfare of the tuberculous may well be proud of this volume.

ARTIFICIAL LIGHT FOR CHILDREN.

Dr. Katherine Gamgee has written a book on actinotherapy in the management of certain disordered and malnourished children, a work which is timely and will be of service not only to clinicians in hospital and private practice, but should interest all workers engaged in the establishment and conduct of light treatment centres under municipal or voluntary control.¹ Professor Leonard Hill in his suggestive Introduction points out that, although the average sunshine in Northern England is only about two and a half hours a day in winter, the ultra-violet rays come from bright clouds and blue sky, and that skyshine is even richer in these rays than direct sunlight. He also shows that rickets can be prevented by ultra-violet irradiation, and that the antirachitic fat-soluble vitamine D can be produced by irradiation and activation of the complex substances, cholesterol or phytosterol, one or other of which is present in all living cells. Dr. Leonard Hill claims that the world-wide distribution of tuberculosis shows that it is a disease brought about by close confinement in dwellings both in man and cattle, and that an open-air life stops the ravages of this menace to the health and happiness of man and his domestic animals. "We have to teach ourselves to cleanse our towns of smoke pollution, to lay out garden cities, and bring children up from birth used to exposure of the naked body to open air and sunlight, while securing as much as possible natural foods—milk, butter, eggs, green food, fruits, and wholemeal bread. At the same time, and for years to come, these things are impossible of attainment for the poor, and for such cod-liver

¹ "The Artificial Light Treatment of Children in Rickets and Malnutrition," by Katherine M. L. Gamgee, M.R.C.S., L.R.C.P., D.P.H., Formerly Assistant Medical Officer of Health for Maternity and Child Welfare, Hull, and Medical Officer in Charge, Hull Corporation Artificial Light Clinic. With an Introduction by Professor Leonard Hill, M.B., F.R.S., Director of the Department of Applied Physiology and Hygiene, National Institute for Medical Research. Pp. 172, with sixteen plates, five graphic charts, and thirty-three illustrations in the text. London: H. K. Lewis and Co., Ltd. 1927. Price 10s. 6d.

oil and artificial sunlight should be supplied. The expense entailed will repay the country a thousandfold in preventing sickness. It is cheap and easy to prevent, most expensive and difficult to cure." Dr. Gamgee's work will be of the greatest value to medical and other workers striving for the prevention and arrest of tuberculosis, rickets, and other conditions manifested by anæmia, malnutrition, and general enfeeblement in children. The work is the outcome of much personal use of actinotherapy, an intimate knowledge of conditions of child life in non-hygienic city homes, and considerable experience in clinical and administrative services. In addition to explicit directions regarding the principles and practice of artificial light therapy as applied in early life, Dr. Gamgee provides records of many individual cases, together with an analysis of more than two hundred cases, for the treatment of which she has been responsible while working in the city of Hull. Dr. Gamgee's book is divided into four parts: the first is introductory, the second provides advice regarding the practical and administrative organization of a public health light centre, the third is devoted to an exposition of clinical and practical details, while the fourth contains records of cases. The appendix contains a chart showing the range of electro-magnetic waves, particulars regarding Lamplough's vitaglass, details of the cadmium photo-electric cell for measuring ultra-violet radiation intensity, etc. The book is effectively got up, excellently illustrated with radiograms, pictures of cases, and other figures. There are also serviceable bibliographical references, together with a short directory of sanatoria dealing with crippled children. Nobody should enter upon the treatment of children by artificial light without having first studied Dr. Gamgee's comprehensive and most practical handbook on the subject.

SPAHLINGER AND TUBERCULOSIS.

Spahlinger and his work and claims as a discoverer of means and measures whereby the scourge of tuberculosis may be prevented and arrested in men and animals have aroused world-wide interest and hope. For fourteen years Spahlinger has apparently carried on his investigations under economic and other difficulties, much accentuated by the Great War, and even still his methods are to a great extent secret, and his complete series of sera and vaccines cannot be obtained for testing by our Ministry of Health and other investigators. Mr. R. Goulburn Lovell, a British retired architect, who has for long been associated with Spahlinger and his co-workers, relatives, and friends at Geneva, has just issued an exposition of what may be designated the Spahlinger case.¹ The work opens with a general survey, which consists of a reproduction of a series of articles which originally appeared in the *Manchester Guardian*. It is estimated that the world's mortality list from tuberculosis is something like four million annually, and of this vast number a million are said to die of the disease within the British Empire, while reliable statistics go to prove that more than 50,000 people die of tuberculosis in these islands alone. Something like

¹ "Why Tuberculosis Exists: How it may be and has been Cured and Prevented—A Book of Facts," by R. Goulburn Lovell. Pp. viii+211, with twenty plates. London: John Bale, Sons and Danielsson, Ltd., 83-91, Great Titchfield Street, W. 1. 1926. Price 6s. 6d. post free.

£1,000,000 a year is spent every year on sanatoria in this country. Since the beginning of Spahlinger's researches, "the Spahlinger and the Lovell families have spent upon it not less than £150,000 out of their own resources." Further financial assistance is required. The preparation of Spahlinger's "remedies" is said to take four years. Mr. Lovell's book is one of exceptional interest, for it affords much information regarding Spahlinger's personality, methods of work, laboratories, claims, achievements, and present position. It is a work which all students of the tuberculosis problem should study without bias and free from prejudice and preconceived opinions. Mr. Lovell's exposition is that of an enthusiastic friend and advocate, and his presentation is rather that of the modern journalist than the strictly scientific investigator and judicial expert. We are told that Spahlinger employs a variety of physical and chemical means to attain his object: "From the separated toxins which Mr. Spahlinger has identified and isolated he manufactures his complete serum. Each toxin is injected into one or more horses—for preference, well-bred horses of dark colour of the Irish hunter type. No two toxins are injected into the same animal, and for preparing the complete serum not fewer than twenty-eight horses are needed. As soon as a horse receives the toxin he begins to produce antibodies with which to neutralize it. As the doses continue, more and more antibodies are formed, until there is a surplus of them in the blood. When this process has been continued for perhaps twelve months the horses are painlessly bled. The twenty-eight partial sera thus obtained are combined, and the serum, now complete, is put up into ampoules ready for use. When the serum is injected into the tuberculous patient, the antibodies of which it is composed at once exert themselves to neutralize the toxins. The antigens consist, in effect, of tubercle bacilli in a form which can be controlled and mastered by the patient's own powers of defence." We could have wished for further details. The tubercle bacillus, it would seem, is separated into its component parts, and from these are prepared separate antigenic solutions which are injected in successive doses. This information regarding "the making of the complete serum and the complete antigens" leaves much to be desired regarding actual technique and methods of preparation. We very much desire that some means could be found whereby Spahlinger, following in the footsteps of other great medical discoverers and benefactors of mankind, could clear up all the mystery which surrounds his work, and would publish a detailed statement regarding his theories, beliefs, methods, technique, in such form as would enable pathologists and clinicians in all parts of the world to submit his claims to the fullest investigation and with accurately controlled tests on actual patients. Spahlinger is a man of forty-five, and can scarcely be considered robust, and in view of the uncertainty of life it is lamentable that one who believes he has discovered something of immense value to mankind should run the risk of his detailed knowledge passing with him unrevealed to other workers in the great field of medicine. Mr. Lovell's book will increase the interest in the Spahlinger mystery. The work certainly contains much valuable information, but portions are presented in a form which, in certain quarters, will be adversely criticized. Mr. Lovell leaves us still in the dark as regards essential facts and the finding of a way whereby the Spahlinger products can be procured in quantities adequate for scientific testing. Mr. Lovell

definitely states that "our aim is the establishment of Spahlinger laboratories in England and other centres where the remedies can be prepared in whole or in part for distribution to the medical profession." We trust that this aim may be speedily accomplished, and under conditions allowing of the approval and fullest co-operation of the medical profession and all supporters of progressive scientific medicine.

X-RAY DIAGNOSIS.

Mr. J. Magnus Redding, of Guy's Hospital, has recently issued what must be considered the most up-to-date and complete handbook on X-ray diagnosis yet published in this country.¹ It is a handsome volume, beautifully printed, and contains excellent reproductions of no less than 224 skiagrams. The subject-matter is conveniently arranged in a series of eighteen chapters dealing successively with the different anatomical systems of the body. The work is one which merits the serious study of physicians, surgeons, and general practitioners; and for those studying for a diploma in radiology, now being granted by the Universities of Cambridge and Liverpool, it will certainly be invaluable. Even the heavily burdened student, who is now expected to add radiology to his obligatory curriculum, will be wise to make himself acquainted with Mr. Redding's masterly volume. The author has wisely preceded his descriptions of morbid conditions by an analysis of the appearances seen in the normal tissues. There is no detailed description of technique, as this is now provided in a number of excellent textbooks. Mr. Redding rightly contends that the ultimate aim of an X-ray investigation is the formation of a reasoned diagnosis, and without knowledge for arriving at this end the most perfect technical results are of no avail. The numerous skiagrams illustrating tuberculous lesions in various parts of the body will be of special interest to readers of this *Journal*. There are some excellent pictures of pulmonary tuberculous involvement and other chest diseases. A section is devoted to a consideration of lipiodol injection of the bronchial tree, and the opinion is expressed that the method is chiefly of value in demonstrating dilatations of bronchi and the presence of cavities in the lung communicating with a patent bronchus. Deviations and strictures of the bronchi can also be shown. This lucidly written, concise, explicit work will be appreciated by those for whom it has been prepared, for it is one which faces and explains difficulties, admits limitations, and throughout manifests balance and sound powers of judgment.

X-RAY APPARATUS.

Would-be radiographers and all who are desirous of working with X-rays will be grateful to Mr. P. K. Bowes for his concise and helpful manual on X-ray apparatus.² The work is primarily intended for those studying for the diploma in radiography and wishful to become practical radiographers. It is an admirable handbook for those in

¹ "X-Ray Diagnosis: A Manual for Surgeons, Practitioners, and Students," by J. Magnus Redding, F.R.C.S., Senior Surgical Radiologist to Guy's Hospital. Pp. xvi + 228, with eighty skiagraphic plates. London: Cassell and Co., Ltd. 1926. Price 21s.

² "X-ray Apparatus: its Arrangement and Use," by P. K. Bowes, M.A., B.Sc., Hon. Radiographer to the Kent and Canterbury Hospital, Canterbury. Pp. viii + 196, with 89 illustrations. London: H. K. Lewis and Co., Ltd. 1926.

actual training in a radiological department of a hospital, but will also be of service to medical practitioners and others who desire to understand the technique of radiography. The opening chapters furnish a clear account of simple electric and magnetic phenomena, a thorough knowledge of which is essential if the construction, action, and general management of X-ray appliances are to be effectively grasped. The descriptions of the X-ray tubes and other forms of apparatus employed in radiography are concise but lucid and thoroughly practical, and the accompanying illustrations add greatly to the excellence of the book as a serviceable manual. There is a good explanatory chapter on the Nature of X-rays, and this is followed by a very explicit account of the fundamental features in the technique of general and regional radiography. There is also a useful chapter on Photographic Technique. The book closes with a suggestive section on Therapeutic Considerations. The Appendix contains a reproduction of the X-ray and Radium Protection Committee's revised Report, issued at the end of 1923. Mr. Bowes has produced just the sort of hand-book which many were wishful to possess, and there is no doubt but that it will be sure of a wide circulation.

A HYGIENIC HOME.

Mrs. C. H. M. Naylor-Davidson, wife of Dr. Naylor-Davidson, of Uxbridge, has recently issued an artistic, practical volume, demy quarto in size, effectively illustrated with plans, diagrams, sketches, and reproductions of water-colour drawings, photographs, and text, all descriptive of a charming, hygienic, labour-saving house which she has designed and built in the country not far from Uxbridge.¹ The author in this original and suggestive work shows how she has materialized her day-dreams, and out of war-time difficulties and economic troubles has succeeded in producing a new, simple, harmonious, and beautiful home, including a delightful garden. We commend this rare book, with its plans and illustrations and lucidly expressed expositions, to the consideration of doctors, architects, and all who propose to construct for themselves an ideal house. We particularly advise those who desire a hygienic and satisfying habitation where health may be maintained, and all delicate, tuberculously disposed, and other health-seekers who wish to maintain life under desirable conditions to study this helpful volume. Mrs. Naylor-Davidson's description of "Over Frays" is a revealing work, every page affording evidence of an inventive, constructive mind, and a genius for demonstrating the science and art of home-making. The author's own coloured and other drawings and her husband's photographs add greatly to the attractiveness of a unique and fascinating publication.

MANUALS FOR MEDICAL ADVISERS AND WORKS OF REFERENCE.

Dr. Robert Hutchison has just issued a short, concise, but thoroughly helpful manual regarding the elements of medical treat-

¹ "Over Frays": An Original House for Practical People," by Clarice H. M. Naylor-Davidson. Demy 4to. 11" x 8½". Pp. 68, with two full colour plates, plans, diagrams, and thirty-two illustrations in black-and-white. London: J. and E. Bumpus, Ltd., 350, Oxford Street, W. 1; Uxbridge: The Author, "Over Frays." 1926. Price £1 1s.

ment, which we would commend to tuberculosis officers and other specialists, as well as to all general practitioners.¹ It is the outcome of lectures delivered at the London Hospital, and furnishes a particularly illuminating introduction to a study of the principles of treatment, especially as regards the commoner forms of disease met with in actual practice. The book is the work of an experienced and shrewd physician and capable teacher, with a sound knowledge of the ways of patients and the needs of those who seek to act as reliable medical advisers. Dr. Hutchison's handbook is an ideal guide for the young practitioner, and its effective presentation of essential therapeutic facts in crisp, epigrammatic, appealing words makes it a work which can be studied with profit by all classes of practitioners of medicine who seek to conduct their practice on scientific and serviceable lines.

Dr. J. Sim Wallace is a pioneer in the study and scientific exposition of dental biology, hygiene, malhygiene, pathology, and therapeutics. Many anthropologists, medical advisers, and other workers for human betterment will be grateful to him for having published his Cartwright Prize Essay awarded by the Royal College of Surgeons.² It is a masterly piece of work, and has been issued as a handsome volume in a worthy form. The work is of interest viewed not only from the dental and medical standpoints, but also on aesthetic, eugenic, and economic grounds. Dr. Sim Wallace has devoted some twenty-four years to the work on which this book is based, and in his experiments and in the preparation of the volume he has been loyally assisted by his wife and family. We congratulate the author on his great achievement, and we earnestly commend a study of his book to all readers of this *Journal*. Rightly viewed, dental matters are intimately connected with the welfare of individuals. Unfortunately the care of the mouth and teeth is only too frequently neglected in tuberculous cases, as, indeed, is the case in other diseases. We trust that Dr. Sim Wallace's notable Essay will arouse all leaders of thought and action to an increase of scientifically directed endeavours for care of the teeth of the nation's children, and dental assistance for all who require it.

A motor-car is now an indispensable companion for every doctor, and is to be found as a part of the service of practically all hospitals and sanatoria. For many healed tuberculous subjects with limited powers a car enables an open-air life to be lived with a minimum of fatigue and a maximum of benefit. Mr. Cecil Thurston has provided an excellent general, elementary handbook on the essentials of motoring, which we unhesitatingly commend to the notice of doctors and cured patients who can claim to be owner-drivers.³ In nineteen succinct, lucidly expressed, practical chapters, accompanied by a series of

¹ "The Elements of Medical Treatment," by Robert Hutchison, M.D., F.R.C.P., Physician to the London Hospital and to the Hospital for Sick Children, Great Ormond Street. Pp. vii+163. Bristol: John Wright and Sons, Ltd. 1926. Price 7s. 6d.

² "Variations in the Form of the Jaws, with special reference to their etiology and their relation to the Occlusion of the Dental Arches," by J. Sim Wallace, M.D., D.Sc., L.D.S., Lecturer on Preventive Dentistry, King's College Hospital. Pp. xii+265, with 84 illustrations. London: Baillière, Tindall and Cox. 1926. Price 17s. 6d.

³ "Motoring Simplified for the Owner Driver," by Cecil Thurston. Pp. 256, and thirty figures. London: Thornton Butterworth, Ltd., 15, Bedford Street, W.C. 1926. Price 5s.

instructive illustrations, he explains the principal points in the construction of the modern petrol-power motor, and furnishes directions for the development of knowledge of a car, and skill in driving, controlling, and caring for it at all times. The information afforded, together with suggestions, hints, and warnings, will all be of help to the many new enthusiastic, but still inexperienced, motorists who are taking to the road.

Many are now seeking an escape from the dreary winter days in this country and health and recreation by participating in Alpine winter sports. University graduates and those connected with public schools would be wise to arrange to visit Switzerland under the auspices of the Public Schools Alpine Sports Club, of which the Rev. the Hon. Edward Lyttelton, D.D., is President, and Lieut.-Colonel P. T. Westmorland, C.M.G., D.S.O., is Hon. Secretary.¹ All such should secure a copy of the Year Book for 1927, which gives a list of members, and provides information regarding such centres as Mürren, Wengen, Maloya, Pontresina, Bergün, and Morgins, and the sports available at these places.

Mr. Wroughton's "Winter Sports Annual" deserves the study of all who propose to visit Switzerland and other countries providing winter sports stations.² It is an excellent guide, full of up-to-date, reliable data, and giving particulars which will not only be of the greatest service to sportsmen, but will be of assistance to those who go to health and sports centres for the renewal of physical and mental powers. Many doctors will find Mr. Wroughton's practical manual of real service in assisting them to advise their clients aright.

Vigorous adolescents and active men and women desiring to enter into the delights of ski-ing should procure a copy of the last edition of Mr. E. C. Richardson's practical illustrated guide-book.³

Health seekers who propose to visit Egypt, India, Australia, New Zealand, and islands and stations in the East will do well to study the new edition of the admirable descriptive guide-book issued by the P. & O. Steamship Company. It contains a series of admirable articles by well-known authorities, illustrations in colour, and numerous maps and plans, together with full particulars regarding all points relating to equipment and conduct of travel.⁴

The Royal Institute of Public Health is holding its next Annual Congress at Whitsuntide in the charming ancient Belgian city of Ghent. All who intend to visit this attractive centre should procure a copy of Mrs. Sydney Stephenson's concise, up-to-date, instructive, and effectively illustrated handbook. This little volume is an indispensable companion for British visitors to Ghent.⁵

¹ Particulars of the Public Schools Alpine Sports Club and a copy of the 1927 Year Book can be obtained on application to the offices at 5, Endsleigh Gardens, Euston, N.W. Price 1s. post free.

² "The Winter Sports Annual, 1926." Edited by J. B. Wroughton. Pp. 177, with illustrations and maps. London: Cecil Palmer, 49, Chandos Street, W.C. 2., 1926. Price 1s. 2d. post free.

³ "The Shilling Ski-Runner," by E. C. Richardson. Third edition. Pp. 36, with thirty diagrams. London: Cecil Palmer, 49, Chandos Street, W.C. 2. 1924. Price 1s.

⁴ "The P. & O. Pocket Book." Fourth issue. Pp. xxviii + 375, with sixteen page illustrations in colour, thirty-six maps and plans, and four plates of flags. London: A. and C. Black, Ltd., 4-6 Soho Square, W. 1. 1926.

⁵ "Guide to Ghent," by Mrs. Sydney Stephenson. Pp. 78, with six full-page illustrations. London: George Pulman and Sons, Ltd. 1926. Price 1s. 6d.

Dr. E. J. Deck has written for the Sunlight League a popular booklet on the rôle of the Sun in the prevention of disease and the preservation of health.¹

The National Association for the Prevention of Tuberculosis, 19, Tavistock Square, W.C. 1, has recently issued a record of the work carried out at the last Annual Conference at Glasgow.² The volume contains a series of suggestive papers, with reports of the discussions on Provision for the Care of Non-Pulmonary Tuberculosis, the Place and Function of the Tuberculosis Dispensary in the Tuberculosis Scheme, and Experience in the Treatment of Tuberculosis by Artificial Sunlight. There are also papers by Professor C. H. Browning on Experimental Studies on Tuberculosis, with reference to the origin of Pulmonary Tuberculosis; Ex-Bailie W. Brownhill Smith on Glasgow's Solution of the Smoke Problem; Dr. J. A. Wilson on the Age Factor in the Incidence of Tuberculosis; and Dr. Alexander Smith on Some Experiences in the Treatment of Tuberculosis by Artificial Sunlight. The National Association for the Prevention of Tuberculosis is rendering a far-reaching service by the organization and holding of its Annual Conferences, and also by the prompt publication of each year's Transactions in a convenient and useful form.

¹ "The Sun and how to Use it," by Edward J. Deck, M.R.C.S., L.R.C.P. Pp. 16. London: The Sunlight League. 1926. Price 1s.

² "Transactions of the National Association for the Prevention of Tuberculosis at the Twelfth Annual Conference, Glasgow." July 1-3, 1926. Pp. xviii + 140. London: George Pulman and Sons, Ltd., 24-27, Thayer Street, W. 1. 1926.

PREPARATIONS AND APPLIANCES.

OCCUPATIONAL THERAPY.

OCCUPATIONAL therapy is a valuable agent in the restoration of many tuberculous patients.

PASSE-PARTOUT furnishes a delightful hobby for delicate people, and particularly for tuberculous patients. It is not only a means for recreation and the provision of an artistic pastime, but can be developed into a remunerative handicraft. In passe-partout both mental and manual powers are developed. It is an art which calls for thought and action. We commend passe-partout as a specially suitable form of employment for patients of all ages. Outfits, furnished with all materials, accessories, and directions, are supplied by the well-known firm of Samuel Jones and Co., Ltd., at prices which bring them within the reach of most patients. We understand that the firm will be glad to supply hospitals, sanatoria, and open-air schools for children with passe-partout outfits and all necessary materials at specially reduced rates.¹

Rest and exercise have long been recognized as among the most important means for dealing with men and women stricken down by tuberculosis; and recently increasing stress has been laid on the mental and bodily advantages which result from judiciously selected and wisely conducted occupation for phthisical and other tuberculous subjects. A suggestive paper on "Occupational Therapy for Tuberculosis Patients" was contributed by Dr. A. T. Laird to the *Journal of the Outdoor Life* for November, 1926 (published monthly by the American National Tuberculosis Association, 370, Seventh Avenue, New York. Price 25 cents; annual subscription, \$2.00), in which the advantages of constructive diversions and interesting occupations are forcibly presented. Our attention has recently been directed to the advantages of weaving for cases resident in sanatoria or receiving instruction in open-air



THE THACKERAY WEAVER.

The hat, scarf, frock, bag, and shoes were all woven on the Thackeray Weaver, which the girl is holding.

¹ Messrs. Samuel Jones and Co., Ltd., Bridewell Place, E.C. 4, will supply booklets giving full particulars regarding their Passe-Partout outfits on application being made to them.

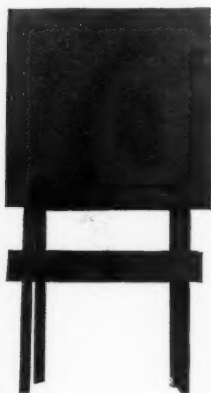
schools, as well as for many patients undergoing domiciliary treatment. Captain and Mrs. Thackeray, of Elsing, Norfolk, have designed a simple form of weaver, which will be welcomed by many lovers of artistic hand-work.¹ It is a novel contrivance, weighing about 3 lbs., which patients can use in the open, seated in an armchair, or when in bed; and it affords means for the conduct of recreative occupation for patients of both sexes. Even children can soon learn to weave with this simple loom. The accompanying figures illustrate some of the chief features of the THACKERAY WEAVER.

One of these cleverly constructed frames can be seen at the Harpenden Open-Air School of the National Children's Home, to which institution it has been presented by the inventor.



THE THACKERAY WEAVER.

The frock worn by the worker was woven and completed in twenty-seven hours.



THE BATES FOLDING TABLE (CLOSED).



THE BATES FOLDING TABLE (OPEN).

FOLDING WORK TABLES are indispensable for children in open-air schools, and, indeed, are oftentimes of much service for the comfortable

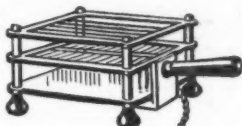
¹ Particulars regarding the Thackeray Weaver can be obtained on application to the Thackeray Weavers, Elsing, Dereham, Norfolk. The price of the weaver complete, with two bobbins to weave fabrics of size 15 x 54 inches, is 37s.

pursuit of recreations or the conduct of occupations among adults, especially under open-air conditions. The accompanying figures illustrate a particularly convenient, inexpensive, reliable, and readily portable form of folding table.¹ It is made with a solid hardwood top, which will stand weather well without warping. The trough shown in the illustration is very useful for holiday books and the like. The price of the table ranges from 8s. 9d. to 9s. 6d. according to height.

HYGIENIC APPLIANCES AND THERAPEUTIC PREPARATIONS.

The introduction of electric power into institutions and dwelling-houses is doing much to bring new hygienic and therapeutic measures

to the aid of preventive and remedial medicine. Among the many forms of electric appliance now available, the "PATENT POINT" ELECTRIC TOASTER calls for special note.² It provides a ready, cleanly, and most effective means whereby patient, nurse, or attendant can with a minimum of trouble and in the quickest way possible supply toast in a hot and attractive form. All that has to be done is to attach the plug into any lamp-holder, and at once the grid is in working order. It should also be noted that the appliance can be used for the heating of liquids



THE "PATENT POINT"
ELECTRIC TOASTER.

in a suitable receptacle, for simple grilling, or for keeping a patient's food or drink at the proper temperature; and it affords means whereby a patient's room can be warmed.

A "SUNLITE" ELECTRIC HAND LAMP is a necessity for doctors, district nurses, and all motorists and others who should be prepared to deal effectively with emergencies whenever and wherever they may arise.³ We have tested this lamp, and would particularly commend it to medical superintendents of hospitals and sanatoria, as well as to medical practitioners generally. It is a companion which, for night work, may be considered indispensable. There are two forms: "Sunlite Senior" (price 21s.), as shown in the accompanying figure, is provided with a



THE "SUNLITE"
ELECTRIC LAMP.

Hellesen "Flash" 4½-volt dry battery, and has a nickel-plated front and black frame. The battery is estimated to last a year with ordinary use before replacement is required. A "Sunlite Junior" (price

¹ The Folding Work Table illustrated on p. 48 is manufactured by the well-known firm of folding-chair manufacturers, C. R. Bates, Stokenchurch, High Wycombe, Bucks, from whom an illustrated price list with particulars can be obtained on application.

² The "Patent Point" Electric Toaster (price 17s. 6d.) is one of the many electric novelties now being supplied by the Coventry Direct Supplies, Ltd., 23, Warwick Row, Coventry, from whom full particulars can be obtained on application.

³ Full particulars regarding the "Sunlite" Electric Hand Lamps can be obtained on application to the manufacturers, A. H. Hunt, Ltd., H.A.H. Works, Tunstall Road, Croydon, Surrey.

17s. 6d.), specially made for ladies, is supplied with a Helleesen "Liter" 3-volt dry battery, and the case is of nickel-plated brass. The total weight is 2 lbs. 2 ozs.

At this season of the year in this country patients in open-air sanatoria, and undergoing treatment in their own shelters or houses, suffer much from the cold, damp atmosphere, which often leads to the development of chilblains and other discomforts. When electric power



THE "MAGNET" ELECTRIC HEATER.

is available much of this distress can be met by making use of the "MAGNET" ELECTRIC PEDESTAL HEATER.¹ It is also an appliance which will bring comfort into many a doctor's dispensary and consulting-room, and be of service to nurses and other workers. Electric heating offers many advantages, chief among which are its convenience and time- and labour-saving features, safety, freedom from dust, and absence of any vitiation or contamination of the air. The chief features of the "MAGNET" ELECTRIC PEDESTAL HEATER are indicated in the accompanying illustration. It is an ideal heater for use in consumptive and other tuberculous cases, attractive in appearance, possessing a high degree of efficiency, inexpensive, and low in cost of upkeep. The heat is produced by a wire element mounted on a former situated at the focus of a polished copper parabolic reflector, allowing of the heat being reflected in any direction by the employment of a canting device designed for tilting and fixation at any angle. The heater is portable, can readily be moved to any room fitted with an electric plug or having an electric lamp holder, and only consumes 600 watts an hour, which on the basis of a penny unit for electric power means only three-fifths of a penny per hour.

The "COMFY" (THREE HEATS) ELECTRIC HEATING PAD² is a medical novelty which many doctors and patients will gladly welcome. It affords a reliable means for the local application of electrically produced heat at a uniform temperature, and thus supplies an effective and hygienic substitute for poultices and hot-water bottles. The pad is 12 by 15 inches in size, and the material which comes in contact with the body is all wool, non-inflammable, soft, pliable, and comforting. The electric supply is regulated by means of a three-way switch,

¹ The "Magnet" Pedestal Heater is manufactured by the General Electric Co., Ltd., Magnet House, Kingsway, W.C. 2. Price £1 1s.

² The "Comfy" (Three Heats) Electric Heating Pad is manufactured by the "Comfy" Company, 4, Manchester Street, W. 1, from whom particulars can be obtained on application.

and is so constructed as to be adaptable to currents of from 100 to 250 volts. The "Comfy" has proved of service in the treatment of cases of neuralgia, fibrositis, lumbago, sciatica, various forms of rheumatism and rheumatoid diseases, and other affections in which the application of heat brings about relief. For patients undergoing open-air treatment it will prove an admirable bed-warmer. The appliance is supplied with 10 feet of double vulcanite, white, silk-covered, flexible cord, and an adapter, and all that is required to put it in action is to insert the adapter to the electric light fitment or power



THE "COMFY"
ELECTRIC (THREE
HEATS) HEATING
PAD.



THE "COMFY"
PAD APPLIED TO
THE BACK.

sockets, and adjust the special switch to the heat desired—low, medium, or full. The price of the outfit is 30s., carriage free.

The firm of Philips Lamps, Ltd., has published a "Philips Exposure Chart," which will prove of service to radiologists using their "Metalix" X-ray tubes.¹ These tubes are so constructed as to afford protection to the operator in conformity with the recommendations of the X-ray and Radium Protection Committee.

The "ANDERSEA" (PATENT) SANITIZING FITMENT is a hygienic novelty, the chief features and uses of which are indicated in the accompanying figure.² It is the invention of Captain Eric P. Kingzett,

and provides a ready means for deodorizing the ordinary household water-closet. By means of an easily adjusted fitment, containing a medicated cartridge consisting of certain disinfecting and deodorizing agents, the first flush of water from the cistern is converted into a sanitary fluid. As will be readily



THE "ANDERSEA" (PATENT) SANITIZING FITMENT.

appreciated, the stronger solution remains in the pan and a pleasant odour is imparted to the apartment. The cost of the fitment, including one cartridge, is 5s., and refills can be obtained at 8s. per dozen.

¹ Particulars regarding the "Metalix" X-ray Tubes can be obtained on application to Philips Lamps, Ltd., Philips House, 145, Charing Cross Road, W.C. 2.

² Particulars regarding the "Anderssea" (Patent) Sanitizing Fitment will be sent on application being made to the manufacturers, "Anderssea Products," Caterham Valley, Surrey.

The "ECLIPSE" ALUMINIUM HOT-WATER BOTTLES AND BED-WARMERS¹ provide an ideal series of indispensable appliances for tuberculous and other patients, not only under hospital and sanatorium conditions, but for those undergoing treatment in their own homes.



THE TWIN-FLUTED BED-WARMER.

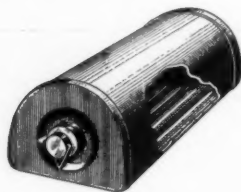
Size: 9 inches diameter by $1\frac{1}{2}$ inches thick; capacity 2 pints.



CONVEX FLUTED BED-WARMER.

Size: 9 inches diameter; capacity $3\frac{1}{2}$ pints.

Particularly for patients following a course of open-air management in this climate, and especially during winter months, reliable hot-water bottles are necessities which cannot be dispensed with. The "Eclipse" series are admirable both in design and construction. They are made of aluminium, and each form is provided with a superior, heavy, brass stopper. The twin-fluted bed-warmer (price 5s.) having its flutes in



"D" SHAPE HOT-WATER BOTTLE.

Size: 9 by 5 by $4\frac{1}{2}$ inches; capacity 4 pints.



ROUND HOT-WATER BOTTLE.

Sizes: 2 pints and 4 pints.

two directions ensures strength, and with its spring handle can be easily held whilst being filled. It can be conveniently packed with one's personal luggage when travelling, and is useful for motorists. The convex fluted bed-warmer has a maximum radiating surface, with a stopper situated in the centre of the upper surface (price 5s.). The "D" shaped hot-water bottle is free from projecting parts, has a ribbed base, and so cannot roll, and the ends are capped and brazed to the body (price 6s. 9d.). The round hot-water bottle is a heavy gauge, seamless receptacle, good for general use in hospitals and other institutions (price 4s. and 6s., according to size).

¹ Full particulars regarding the "Eclipse" Aluminium Ware can be obtained from the manufacturers, Frederick Braby and Co., Ashton Gate Aluminium Works, Bristol. London Offices: 352-364, Euston Road, N.W. 1.

"ZORBO" JOINT JACKETS provide a new means for the application of simple or medicated dressings to the various joints and other parts of the body.¹ The accompanying figure indicates at a glance the chief feature of these novelties. Liniments and other local applications can be readily and effectively used with the maximum of comfort, cleanliness, and relief for the patient. These "Jackets" will be of service in dealing with many neuritic, fibrotic, and other troubles frequently met with in tuberculous subjects.



THE "ZORBO" JOINT JACKETS.

A WILKINSON SAFETY SHAVER is a hygienic necessity, and one which will last a lifetime.² Some efficient form of safety razor which shall be time and labour saving is indispensable for most men, and particularly for hospital and sanatorium patients, and especially those undergoing open-air treatment at home or abroad, or travelling for health. The Wilkinson Safety Shaver is provided with hollow-ground blades made of hand-forged steel of the finest quality. The cutting depth of the blade can be regulated with precision by the twisting of an adjusting screw, and a few seconds' service with the automatic stropper provided with each set will keep the blades in perfect order. This admirable aid to comfortable shaving makes an ideal present for both medical advisers and patients.



THE WILKINSON SAFETY SHAVER.

Under the general title of THE "COSY" POT, the well-known firm of Abram Allware, Ltd., have introduced a novelty of great utility for use in hospitals, sanatoria, open-air schools, and the like institutions, as well as proving acceptable as a particularly desirable hygienic convenience for nursing-homes and private houses.³ It is a cleverly constructed container for holding tea, coffee, cocoa, chocolate, milk, or, indeed, any kind of liquid food. It keeps drinks hotter or cooler, as the need may be, than do ordinary pots or jugs. It is fly-proof and practically dust-proof, and moreover it is fitted with a

¹ Particulars regarding the "Zorbo" Joint Jackets can be obtained on application to the manufacturers, Robert Bailey and Son, Ltd., Marriott Street Mills, Stockport. London Office: Sentinel House, Southampton Row, W.C. 1.

² The Wilkinson Safety Shaver, fitted with hollow-ground blades, is manufactured by the Wilkinson Sword Co., Ltd., 53, Pall Mall, S.W. 1, and is supplied at prices ranging from 8s. 6d. to 42s.

³ Full particulars regarding the various sizes and prices of the "Cosy Pot" can be obtained on application to the proprietors, Abram Allware, Ltd., 135-139, Queen Victoria Street, E.C. 4.

straining device which can readily be kept clean. The "Cosy" Pot is available in $1\frac{1}{2}$ -pint, 1-pint, and $\frac{1}{2}$ -pint sizes, the latter being particularly serviceable as a feeding-cup. This practical novelty only needs to be known and used to be appreciated.

The firm of J. G. Miller and Co. is supplying "CUE-TO-COMFORT" BOOK RESTS and NEWSPAPER STANDS¹ which will be of special value to patients in hospitals, sanatoria, nursing-homes, or being attended in their own houses. The chief features of these helpful novelties are indicated in the accompanying figures. They are both made of Jacobean oak, and



THE "CUE-TO-COMFORT"
NEWSPAPER STAND.



THE "CUE-TO-COMFORT"
BOOK REST.

are portable, durable, and inexpensive. The Book Rest when closed is 10 inches by $4\frac{1}{2}$ inches (price 3s., postage 4d.). The Newspaper Stand is $10\frac{1}{2}$ inches by $7\frac{1}{2}$ inches (price 3s. 6d., postage 4d.). These stands have proved of great service both to the sick and comfort-loving healthy folk, and are popular everywhere.

THE LEVY-WEST ULTRA-VIOLET PASTILLES have been devised to provide means whereby the quality of radiations can be estimated and the dosage recorded.² The outfit consists of specially prepared pastilles which can be readily fixed to the skin of the patient undergoing actinotherapy, a tint card, and a "vita-glass" filter.

KOLYNOS DENTURE POWDER should be known and used by all who wear artificial teeth.³ In all cases of tuberculosis, especially those with involvement of the respiratory tract, it is of the first importance to avoid any approach to oral sepsis. A dirty denture must be viewed as a definite menace. Kolynos is one of the best and most popular of modern dentifrices, and the manufacturers of this excellent preparation have been well advised in introducing a denture cleansing agent. The Kolynos Denture Powder, when brushed into the dental plate and artificial teeth, removes stains, mucous deposits, food debris, and other non-hygienic accumulations, without damaging plates of gold, vulcanite, or other materials, or scratching the teeth. The powder is of fine, white,

¹ Particulars regarding the "Cue-to-Comfort" Book Rest and Newspaper Stand may be obtained on application to J. G. Miller and Co., 73-74, Chiswell Street, E.C. 1.

² The Levy-West Ultra-Violet Pastilles Outfit with full instructions is provided by Arnold and Sons, incorporated by John Bell and Croyden, Ltd., 50-52, Wigmore Street, W. 1. Price 15s.

³ The Kolynos Denture Powder is supplied by Kolynos Incorporated, Chenies Street, Tottenham Court Road, W.C.

free-flowing consistence, and has the familiar Kolynos odour, and is also a good antiseptic and deodorant. It is put up in a pleasing receptacle ingeniously shaped and of attractive form.

PARATHYROID WITH CALCIUM LACTATE is being advocated as an effective means for preventing and arresting the formation of chilblains, which prove so prejudicial and distressing to many adults undergoing sanatorium treatment and not a few children being cared for in open-air schools.¹ The internal secretion of the parathyroid glands has been shown to raise the calcium level of the blood. The well-known firm of Armour is now supplying Parathyroid in tablets $\frac{1}{10}$, $\frac{1}{20}$, and $\frac{1}{10}$ gram. and in ampoules for hypodermic injection. Parathyroid $\frac{1}{10}$ gr. is also provided in association with calcium lactate $2\frac{1}{2}$ gr. It is known as "Glanoid" Parathyroid Compound, and is the one generally prescribed for chilblains.

EVATMINE, the essential element of which appears to be adrenalin, to which is added a small quantity of Pituitary Posterior Extract, thus making it a safer and more effective remedy than adrenalin alone, has found much favour in the treatment of urticaria, asthmatic attacks, and a number of other spasmodic affections, and now evidence is forthcoming which goes to show that it is of service in preventing and curing chilblains, which are so prevalent at this time of the year among many tuberculous patients, and especially such as are undergoing open-air treatment.²

OSTELIN is a new therapeutic agent which is attracting much attention as a valuable agent in the treatment of the tuberculous. It is a preparation of the unsaponifiable fraction of cod-liver oil.³ Being entirely free from the fatty constituents of the oil, Ostelin enables intensive treatment to be carried out without fear of any digestive disturbances. The product presents vitamin D in highly concentrated form, and since the special function of this vitamin is the stimulation of calcium metabolism, it is evident that Ostelin is likely to be of assistance in dealing with cases in which hypocalcæmia is a prominent feature. In the treatment of tuberculous and tuberculously disposed cases cod-liver oil has for generations been regarded as a remedial agent of much importance; its main value is now known to be due to its high content of vitamin D, which, by stimulating the absorption of calcium by the blood serum, has an important effect on the coagulability of the blood. The use of cod-liver oil is, however, as is generally recognized, greatly limited by difficulties in administration. These would now seem to be in a measure solved by the introduction of Ostelin. Ostelin is being extensively used in the treatment of patients with surgical tuberculosis, as well as the subjects of pulmonary tuberculosis, and the clinical results are said to be eminently satisfactory. Ostelin can be obtained in three forms: (1) A glycerine suspension, of which 4 minims are equivalent

¹ "Glanoid" Parathyroid Compound is supplied in bottles of 24 (price 2s. 6d.), 100 (price 7s. 6d.), 500 (price 35s.), and 1,000 (price 66s.), subject to discount; and particulars can be obtained on application to Armour and Co., Ltd., Queen's House, Kingsway, W.C. 2.

² Full particulars regarding Evatmine, together with clinical data and samples, will be supplied to medical practitioners on application being made to the British Organotherapy Co., Ltd., 22, Golden Square, Regent Street, W. 1.

³ Ostelin and its preparations are being supplied by Glaxo, 56, Osunaburgh Street, N.W. 1; and literature relating to Ostelin will be sent to medical practitioners on application.

in therapeutic value to a drachm of cod-liver oil; (2) tablets containing 4 minims of Ostelin and 2 grains of calcium glycerophosphate in soluble form, and these are particularly useful for adult use; (3) in combination with malt extract and orange juice, a preparation containing the exceptionally high proportion of 50 per cent. of cod-liver oil in the form of Ostelin. The orange juice which is incorporated is a special concentrated product which has been shown by physiological tests to have the same antiscorbutic potency as the juice from which it is prepared. This is especially suitable for children. Clinicians who are considering the use of Ostelin will naturally wish to be assured as to the activity of the preparation. We understand that all supplies of Ostelin are standardized by physiological tests. This is an important point, and perhaps not the least of the recommendations for Ostelin, since the variability of cod-liver oil in vitamin potency is well known. An interesting development of the use of Ostelin in the treatment of tuberculosis is its employment for intramuscular injection. An Italian specialist, Dr. Davide Luise, has recently carried out some preliminary experiments in this direction which are distinctly encouraging, though the experiments need confirmation. This physician has used Ostelin dissolved in cod-liver oil in such concentration that 100 grams of the solution are equivalent to 2 litres of the oil. The preliminary report states that 1 to 2 c.c. of this solution, injected into the gluteal region, had an immediate effect, producing a feeling of general improvement, arresting the wasting, improving the appetite, and reducing pyrexia. It is also stated that microscopic examination of the sputum showed that a number of the tubercle bacilli had lost their acid-fast properties. Intramuscular injection of Ostelin seems, however, to be liable to produce rather severe local reactions, and it is evidently necessary, in default of more extended trials of this method, to proceed with caution. Meanwhile, the administration of Ostelin by the oral route would undoubtedly appear to place an improved method of stimulating calcium absorption in the hands of medical advisers specially interested in the treatment of tuberculosis. It may be hoped that medical superintendents of sanatoria will give Ostelin a thorough trial.

LIPIODOL is an iodized vegetable oil, the product of a combination of red-poppy oil with metalloid iodine, free from chlorine or other impurities.¹ It is being used in the radiological investigation of cases of pulmonary tuberculosis and other diseases of the chest; and in some instances it appears to exercise some beneficial therapeutic effect. When properly administered by intratracheal injection no serious discomfort is experienced. Lipiodol is also being employed for intraspinal injections and the investigation of other parts of the body.

JECOMALT is excellent for tuberculous subjects² and tuberculously disposed children. It is an active cod-liver oil preparation without its customary oiliness and disagreeable taste. It is effectively combined with "Wander" Dry Malt Extract, and is said to contain more than double the quantity of the purest Norwegian cod-liver oil usually found

¹ Particulars regarding Dr. L. Lafay's Radiological Lipiodol can be obtained in this country from the agents for Great Britain and the Colonies, Bengue and Co., 24, Fitzroy Street, W. 1. The agents for the United States are E. Fougere and Co., 90-92, Beckmann Street, New York.

² Jecomalt is manufactured by A. Wander, Ltd., at their laboratories and works at King's Langley, Hertfordshire, and medical practitioners can be supplied with specimens and particulars on application.

in "malt and oil" preparations. It is rich in the essential vitamin principle, and contains elements valuable as digestive agents and nutrients. Patients who rebel against ordinary cod-liver oil preparations readily welcome Jecomalt.

GUYCOSE is a preparation which has proved of service in pulmonary and other forms of tuberculosis and in various chest diseases.¹ It is a combination of "Somatose," which has won favour as a concentrated nutrient, tonic, and restorative, with calcium guaiacol sulphonate. It is a dark brown fluid of agreeable aromatic taste and odour, and is freely miscible with water. It is readily tolerated, improves nutrition, and has given good results in many cases of tuberculosis.

LYSOL, a preparation of cresols and neutral tar oils in emulsion form, is a valuable antiseptic and disinfectant for use in connection with tuberculous cases in hospitals and sanatoria.² It provides an effective means for dealing with sputum, faecal, and other excretions and discharges from tuberculous subjects. It can be employed for all medical, surgical, and sanitary purposes where a safe, reliable, inexpensive, and generally satisfactory deodorant and disinfectant is required.

SERODEN is a colloidal combination of iodine with serum proteins, which promises to be of service in certain cases of tuberculosis.³ It is readily assimilated without producing digestive disturbances, and is not liable to produce iodism.

Many tuberculous patients rank among the devotees of Lady Nicotine, and in ordering the day's programme for such subjects the medical adviser will generally be wise to consider the psychological influence which may follow any marked departure from customary habit. In all cases investigation regarding the quality and quantity of the tobacco smoked will be desirable, and only reliable brands should be permitted. The well-known firm of cigarette specialists, Abdulla and Co., make a feature of cigarettes for medical advisers and their patients. Their products are of the highest quality, and certain varieties of cigarettes are particularly suited to meet the needs of delicate and tuberculous cases. Abdullas furnish a series of cabinets admirably fitted to serve as presents. They also provide an Abdulla "Dribaccy" Pipe, which is constructed with a nicotine trap, and will be welcomed by doctors and patients who prefer to smoke their tobacco in a pipe.⁴

¹ Guycose is supplied by Bayer Products, Ltd., 1, Warple Way, Uxbridge Road, W. 3, and full particulars will be supplied on application.

² Medical practitioners can obtain a specimen and particulars of Zimmermann's Dega Brand Lysol on application to Chas. Zimmermann and Co. (Chem.), Ltd., 9-10, St. Mary-at-Hill, E.C. 3.

³ Seroden is supplied in capsules by Allen and Hanburys, Ltd., 7, Vere Street, W. 1, from whom specimens and particulars can be obtained on application.

⁴ Messrs. Abdulla and Co., Ltd., 173, New Bond Street, W. 1, will be glad to send particulars of their specialities to medical practitioners and readers of this *Journal* on application being made to them.

THE OUTLOOK.

THE TUBERCULOUS CHILD.

SIR GEORGE NEWMAN'S Annual Report, as Chief Medical Officer of the Board of Education, is always a document of the greatest value to medical advisers and others interested in the welfare of school-children. The latest issue contains information relating to tuberculous and tuberculously disposed children.¹ Sir George lays special stress on the importance of preventive work: "To send a child with tuberculosis to a sanatorium or an orthopædic clinic may be necessary, but to prevent the onset of tuberculosis is both more scientific and more economical." There are approximately 5,000,000 children in average attendance in public elementary schools in England and Wales. Of these, 1,798,397, or about one-third of the total, were subjected to routine medical inspection during the past year. The number requiring treatment, apart from uncleanness and dental defects, was 428,449, or 23·8 per cent. of the children examined. If to these figures are added "special cases," the total number found to be in need of treatment was approximately 800,000. The total number of "exceptional" children was 75,285. There are fifty day and twenty-seven residential open-air schools, with accommodation for 6,450 children. No less than 12,113 children were in attendance for some period of the year. The cost per annum of each child in a day open-air school was in 1923 about £30, as compared with £12 in an ordinary elementary school. Records have been obtained which go to show that in a large proportion of cases the benefits gained are permanent. Schemes for the orthopædic treatment of cripples have been considerably developed; in about 122 education areas some attempt is now being made to deal with the problem of the crippled child. A section is devoted to Artificial Light Treatment. It is claimed that "the treatment of disease by ultra-violet light is still largely experimental," and, it is added, "at this stage of our knowledge it is necessary to proceed with caution, and before approving new arrangements the Board will require to be satisfied of the competence and experience of the medical officer in charge, of the suitability of the premises and equipment, and of the methods of selection of cases and recording results." It is suggested that in any application for approval of arrangements for artificial light treatment, the following information should always be given: (1) Particulars of the special experience in artificial light therapy of the medical officer and the nurses engaged in the treatment; (2) days and hours of sessions; (3) particulars of the rooms assigned for the treatment, including a statement of any other purposes for which these rooms are used; (4) arrangements for the ventilation of the rooms, and for flushing them with air during the

¹ "The Health of the School Child: Annual Report of the Chief Medical Officer of the Board of Education for the year 1925." Pp. 169. London: H.M. Stationery Office. 1925. Price 1s. 6d.

intervals of sessions; (5) particulars as to type of apparatus used, and the current amperage; (6) nature of current—direct or alternating—and voltage; (7) classes of cases to be treated; (8) precautions for screening the eyes of patients and staff; (9) number of patients treated at any one time; (10) average duration of exposure; and (11) average cost of current per hour, and estimated average cost of each patient's treatment." In the section on Tuberculosis it is shown that (1) the tuberculosis mortality is highest in infancy, a little lower in children aged one to five, and much lower in children of school age, five to fifteen; (2) with the exception of some of the war years, there has been a steady decline in mortality at each of these age periods; (3) the decline which has occurred has been greater in non-pulmonary tuberculosis than in phthisis. In 1925 1,101 children aged five to ten years, and 1,406 aged ten to fifteen, died of tuberculosis in one form or another. The section concludes with the following statement: "As is well known, infancy and childhood are very susceptible to infection. The objects of preventive measures are to decrease that infection in amount and frequency, and raise the resistant power of the child. The former is extremely difficult while so many people are badly housed and deprived, or deprive themselves, of fresh air, sunlight, and an hygienic life. The latter is a slow process. But progress should be made in both directions. The age incidence of mortality from tuberculosis in the table presented shows that the risks are greatest in the first years of life. It is important that the anti-tuberculosis work of the medical officer of health and the school doctor should be closely affiliated with the infant and child welfare work. Bernard Debré and Lelong have shown that young children removed from a tuberculous home environment escape infection like normal human beings, the evolution and arrest of the disease depending primarily on the presence or absence of tuberculous contact at home."

PATIENTS' DIETARY IN SANATORIA.

DISCUSSIONS not infrequently arise in all classes of sanatoria, and particularly in those under the direction of public authorities and voluntary bodies, regarding the patients' dietary. It is interesting to note, therefore, that at a meeting of the London County Council on June 15, 1926, the following resolution was approved: "That it be referred to the Public Health Committee to consider and report as to (1) the dietary in sanatoria and the provision of butter or margarine; (2) what amount of butter or fresh fruit is allowed to be brought in by the friends of patients resident in sanatoria." Dr. F. N. Kay Menzies, Medical Officer of Health of the L.C.C., has kindly favoured us with a copy of the report which has been issued, and from which we take the following:

"The correct diet for tuberculous patients has been the subject of exhaustive study and practical experiment over a considerable number of years. As a result, the principles upon which a dietary should be based have been clearly defined. Scientifically these principles are stated in terms of calories, proteids, carbohydrates, fats and vitamins, and an efficient diet should include certain amounts of the above-named food principles. The Local Government Board in 1918 fixed a dietary scale for patients in sanatoria, giving weekly amounts of a number of

foodstuffs, and the Minister of Health, in a circular issued in 1922, stated that the scale had proved satisfactory in actual practice, and that any substantial excess over the scale was unnecessary in the interests of the patients, although it was reasonable to supplement the scale in certain minor respects. We are informed that dietaries based on the scale referred to are in general use throughout the country, and that in many cases the dietaries provided are more liberal than the scale in certain respects. We would point out particularly that the Minister of Health does not "approve" an institution for the reception of tuberculous patients unless its dietary conforms with his requirements. The diet in institutions to which patients are sent under the Council's scheme for the treatment of tuberculosis is, moreover, one of the matters to which constant attention is given by the Council's visiting medical staff and by medical officers of the Ministry of Health, and the possibility of a physiologically inadequate diet being given in any such institution is negligible. The medical superintendent of an institution can always vary or supplement the dietary in any particular case in which it may be considered necessary. The directions in which variation of diet occurs, for example, between one institution and another, and in which from time to time there may be cause for complaints, lie not in the actual nutritive value, but in the constituents of the diet—*e.g.*, the kinds of food used, their quality, and the manner in which they are cooked and served. Tuberculous patients are liable, from the nature of their condition, to be variable in their appetite, and a standard diet, unless care is taken, becomes monotonous and ultimately, in consequence, distasteful. Prompt and reasonably attractive service is also essential. In particular, attention must be paid to provision for serving hot meals, since under open-air conditions cooling of food takes place rapidly. Variety also is a necessary feature of any institutional diet. At the various institutions to which the Council sends patients all these points receive adequate attention, and arrangements have been made with the various medical superintendents for the keeping of daily records of the meals served to the patients. This record is available at any time, and is always inspected by the Council's medical staffs when visiting an institution. From time to time the Council's medical officers make suggestions for improving a dietary, and such suggestions are invariably welcomed and accepted. It may be stated with confidence that the diets which the Council's patients are given in hospitals and sanatoria are adequate and satisfactory. Complaints to the Council as to food at sanatoria are comparatively rare, taking into account the large number of patients under treatment, and in almost every case investigation has shown the complaints to be without justification. We visited some institutions about a year ago, and in the course of our visit took the opportunity of examining carefully the dietaries and the arrangements for the preparation and serving of food, and found no cause for dissatisfaction. The question of butter or margarine has also been exhaustively discussed during recent years. The accepted opinion has been thus expressed by the Minister of Health in his circular of 1922, referred to earlier—"Except in special cases, a butter ration is not essential, if the necessary fats are provided in the form of margarine and dripping, and an adequate supply of green vegetables is provided." We are advised that this opinion is sound, and that, on physiological grounds, there is no case for the preference of butter over margarine.

On the grounds of palatability, however, most patients prefer butter. Another consideration is that many patients erroneously think that butter is better for their case than margarine, and undoubtedly are gratified by the knowledge that they are having butter. The matter of taste in such cases is a minor consideration. It is a question of tradition, as is the belief in the curative value of a large quantity of milk, an article of diet the quantity of which it is the modern tendency to reduce in the case of tuberculous patients. For these reasons it has been the practice of the Council's medical staff to encourage institutions for the treatment of adults to give butter, and, as a result, the number of institutions which give butter has steadily increased. At the present time twenty-one voluntary hospitals and sanatoria for adults provide butter only, six give butter and margarine, three give a mixture of butter and margarine, and four give margarine only. At the Metropolitan Asylums Board's institutions, in which the majority of the Council's patients receive their treatment, good class margarine mixed with 10 per cent. of butter is given. We are informed that this ration meets with general approval. When margarine only is given, it is essential that it should be of the best quality. Inquiries have been made as to the practice of voluntary institutions for adults in the matter of allowing butter and fresh fruit to be brought in by patients' friends, and the information obtained shows that in twenty-one institutions there are no restrictions; in nine institutions, fruit is allowed, but no mention is made of butter; at one institution, the patients may buy fruit, as no visitors are allowed except by special permission (butter is not mentioned, but this is an institution at which butter is supplied); and at one institution, fruit only is allowed. At only one institution are both fruit and butter not allowed to be brought in. In the Metropolitan Asylums Board's institutions, the introduction of articles of food by the patients or by the patients' friends is left to the discretion of the medical superintendents as a matter of administration. In practice, the supply of fresh fruit from these sources is permitted in all cases, but in the great majority of cases, not of butter. The practice of friends and relations bringing in foodstuffs arises mainly from a desire to give some expression of their sympathy with the patient, rather than from a wish to supplement the institution diet. The reasonableness of this desire is recognized by nearly all institutions. Generally speaking, no definite regulations are laid down, it being understood that, within reasonable limits, no objection is raised to certain foods and fruit being brought in by visitors. As a rule, visitors to institutions are allowed to bring fresh fruit, and various delicacies for tea, which is an unimportant or even optional meal. Jam, cakes and biscuits are the foods most usually selected. The introduction of food of a character which would interfere with the dietetic treatment of a patient, as arranged by the medical officer of the institution, is not allowed."

NOTES AND RECORDS.

The Wellcome Bureau of Scientific Research, 25 to 28, Endsleigh Gardens, Gordon Square, W.C. 1, recently opened by the Minister of Health, contains a museum of medical science arranged on unique lines, and provides an admirable section devoted to the exposition of tuberculosis, which will be invaluable to medical officers

of health, lecturers, students, and all interested in educational propaganda, and the provision of reliable instruction regarding the principles and practice of preventive medicine.

The last issue of *Sunlight*, the official organ of the Sunlight League, was a "Smoke Abatement Number."¹ It also contained an illustrated article by Dr. W. J. O'Donovan on "A Quarter of a Century of Light Treatment at the London Hospital"; a communication from Dr. C. W. Saleeby on "Leysin and Rollier's Wonderful Work"; and a paper by R. G. Randall entitled "Save London's Squares!" together with much other material of interest to those who strive for light and truth.

All photographers should secure a copy of the 1927 issue of the "Wellcome" Photographic Exposure Calculator and Diary.² It contains practical information of the greatest value to all camera enthusiasts.

Messrs. Ogilvy and Co. have recently issued a second edition of their catalogue regarding microscopical illuminating apparatus.³

The Joint Tuberculosis Council have nominated the following officers for 1927: President, Sir Henry Gauvain; Vice-Chairman, Dr. G. Lissant Cox; Treasurer, Dr. J. Watt; and Secretary, Dr. E. Ward. It is proposed that a course of instruction at Copenhagen should be a feature of the Council's work for 1927. Full particulars regarding forthcoming meetings can be obtained on application to Dr. E. Ward, Withycombe Lodge, Torquay Road, Paignton, Devon.

It is hoped that a joint meeting with the Tuberculosis Society will be held in April at Oxford.

¹ *Sunlight* for December, Vol. I, No. 3, price 1s., is issued from the offices of the Sunlight League, 29, Gordon Square, W.C. 1. Annual membership, minimum subscription 10s. 6d.

² The "Wellcome" Photographic Exposure Calculator Handbook and Diary for 1927 is issued by Burroughs Wellcome and Co., Snowhill Buildings, E.C. 1, price 1s.

³ A copy of Messrs. Ogilvy and Co.'s list can be obtained on application to the firm at 20, Mortimer Street, W. 1.